The older adults’ NHS and social care return on investment tool

Technical report
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1. Introduction

1.1 Background

A project report is available, which contains the summary of the methods used, and discussion of the key results of the ROI modelling. This accompanying Technical Report contains further detail of the literature review process, the process of assessment and prioritisation of interventions for inclusion in the tool, and the detailed modelling methods used.

1.2 Interventions included in the tool

Based on evidence from the literature review, and informed through discussion with expert Steering Group members, the following 9 interventions are included in the ROI tool:

- community singing
- a help at home scheme
- a befriending service
- the WHELD intervention for people living with dementia in nursing home
- the INTERCOM intervention providing hospital discharge support for COPD patients
- bundle of voluntary and community sector (VCS) services aimed at patients with long-term conditions, using social prescribing and other approaches to put patients in touch with services
- health coaching delivered by inter-professional health and social care services
- the BELLA intervention providing self-management support for COPD patients
- a home care reablement service

Please note that interventions looking at preventing falls were outside the scope of this project. A description of the interventions in the tool is provided in the main report. The studies underpinning each of the interventions are listed in Section 6 References.
2. Project governance and user engagement

The project work was led by a Project Team at PHE and overseen by a multi-disciplinary Steering Group. The development of the ROI tool was also informed by a User group.

2.1 Steering Group

The Steering Group met regularly throughout the project, to comment on the methods used and the outputs over the course of the project, provide advice on the project approach and agree key decisions. A Project Initiation Document was signed off by the Steering Group in August 2018. The Steering Group included representatives from the following organisations:

- PHE
- Department for Health and Social Care
- NICE
- commissioners of adult social care services in local authorities

In addition to the core Steering Group, PHE sought to involve other key stakeholders, such as academics with an interest in social care, in commenting on key outputs from the project. A workshop of academic experts was held towards the end of the literature review stage, to seek views on the potential interventions being considered for inclusion in the tool.

At the concluding stage of the literature review, approval from the Steering group was obtained to proceed to Phase Two of the project, having found sufficient economic evidence to develop an ROI tool. Steering Group members were given the opportunity to give feedback on the ROI tool, the Project Report and Technical Report.

2.2 User group

The Project Team recognised the need for engagement with people involved in commissioning health and social care interventions and also potential end-users of the ROI tool. Prior to commencing the project, PHE carried out user consultation via a Discovery Workshop, to inform the scope of the project and generate information on priorities, enablers and barriers to commissioning social care services for older people. A User Group of similar individuals was convened to comment on a prototype of the tool and provide comments to the Steering Group. A virtual meeting with the User Group to demonstrate a prototype of the tool was held in April 2019.
3. Literature search and review

A literature review protocol was developed which included the proposed eligibility criteria, the search stages and the process for study selection and data extraction. The eligibility criteria agreed by the Steering Group are set out in Table 3.1.

Table 3.1: Eligibility criteria for the review

<table>
<thead>
<tr>
<th>Eligible studies</th>
<th>Ineligible studies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Population</strong></td>
<td>People 65 years and over</td>
</tr>
<tr>
<td><strong>Ineligible studies</strong></td>
<td>People under the age of 65</td>
</tr>
<tr>
<td><strong>Interventions</strong></td>
<td>Interventions relating to the interaction between NHS and social care</td>
</tr>
<tr>
<td></td>
<td>Digital technology</td>
</tr>
<tr>
<td></td>
<td>Interventions supporting the health of carers</td>
</tr>
<tr>
<td></td>
<td>Building community capacity</td>
</tr>
<tr>
<td></td>
<td>Interventions that support self-care and empowerment for people with long term</td>
</tr>
<tr>
<td></td>
<td>conditions</td>
</tr>
<tr>
<td></td>
<td>Practical support</td>
</tr>
<tr>
<td></td>
<td>Supported housing</td>
</tr>
<tr>
<td></td>
<td>Studies not including these interventions and studies including multiple interventions (i.e. not only these interventions)</td>
</tr>
<tr>
<td><strong>Comparators</strong></td>
<td>Any similar intervention</td>
</tr>
<tr>
<td></td>
<td>No intervention</td>
</tr>
<tr>
<td></td>
<td>Studies including multiple interventions where the relevant data are not reported separately</td>
</tr>
<tr>
<td><strong>Outcomes</strong></td>
<td>Cost-effectiveness outcomes e.g. cost per condition prevented, total cost savings, return on investment, cost per QALY, productivity gains</td>
</tr>
<tr>
<td></td>
<td>Effectiveness outcomes for social care or health outcomes:</td>
</tr>
<tr>
<td></td>
<td>Social care outcomes, e.g. changes in social care packages, numbers of people requiring care home places.</td>
</tr>
<tr>
<td></td>
<td>Health outcomes e.g. number of hospitalisations.</td>
</tr>
<tr>
<td></td>
<td>Studies not reporting cost-effectiveness or effectiveness outcomes.</td>
</tr>
<tr>
<td><strong>Study design</strong></td>
<td>Any comparative study design that reports the outcomes specified. Studies need to include an evaluation comparing costs and/or outcomes of 2 or more options.</td>
</tr>
<tr>
<td></td>
<td>Studies not reporting comparative outcomes.</td>
</tr>
<tr>
<td><strong>Limits</strong></td>
<td>Evidence in English</td>
</tr>
<tr>
<td></td>
<td>Evidence available as full text e.g. journal articles, reports, theses</td>
</tr>
<tr>
<td></td>
<td>Evidence in languages other than English</td>
</tr>
<tr>
<td></td>
<td>Evidence in abstract form only e.g. abstracts of conference presentations</td>
</tr>
</tbody>
</table>
3.1 Search context

Identifying studies relevant to the protocol eligibility criteria presented a number of search challenges. Studies on older people may not explicitly describe an older population in the database record if older people are not the sole target of the intervention (e.g. personal budgets, bundle of voluntary and community sector (VCS) services aimed at patients with long-term conditions). In other studies, the older population may be implied rather than explicit (e.g. an intervention for dementia patients is likely to be in a largely elderly population but may not specify this in the title and abstract). However, not restricting the search to records explicitly referring to older people would result in the retrieval of large numbers of records, the majority of which would be irrelevant.

The interventions referred to in the eligibility criteria were mainly 'umbrella' terms, which encompassed a wide range of potentially eligible interventions (e.g. “digital technologies”) and / or required further definition / specification for them to be searchable (e.g. "interventions that support self-care and empowerment for people with LTCs"). The research team decided not to further define or specify the interventions of interest within the umbrella categories prior to running the searches. It was therefore difficult to develop robust search terms to retrieve relevant studies reporting on all potentially eligible interventions. Furthermore, searching using generic terminology for social care alone was unlikely to be sufficiently sensitive; general social care search terms are not always present in the title and abstract of relevant database records - only the specific intervention is explicitly described, rather than the context.

The challenges of this search context, and search options, were discussed within the research team. In this context, and in the context of project timelines and resources, it was decided that a traditional “big bang” database search (that might be conducted for a systematic review of clinical interventions for example) was not feasible, and could potentially result in a search methodology with both poor sensitivity and low precision. Instead, it was decided to conduct several rounds of targeted, pragmatic searches. This approach would prioritise finding a manageable number of highly relevant papers, rather than attempting to provide ‘comprehensive’ retrieval of all of the relevant literature.

The planned rounds of searching were:

1. Searches for studies reporting Adult Social Care Outcomes Toolkit (ASCOT) or ICEPop CAPability measure for Older people (ICECAP-O) outcome measures.
2. Targeted, pragmatic searches for economic evaluations, resource use or health state utility value studies of social care interventions in older people.
3. Harvesting of studies from relevant studies and reviews.
4. Targeted web searches.
5. Analysis of material provided from PHE and topic experts.
6. Citation searches and / or author searches.
This approach is more iterative than traditional database search approaches. It was agreed that not all search rounds would be required if sufficient evidence was identified by the earlier rounds of searching.

### 3.2 Search methods

The search strategies for each of the rounds are described below. Where possible, the results of searches were downloaded in a tagged format and imported into bibliographic management software (EndNote). Results from resources which did not allow export in a format compatible with EndNote were added manually. One EndNote Library was used for the results of all of the database searches in order to prevent the same record being screened multiple times, maximising efficiency. The results were deduplicated using several algorithms and the deduplicated references held in a duplicates EndNote database for checking if required.

#### 3.2.1 Search for studies reporting Adult Social Care Outcomes Toolkit (ASCOT) or ICEpop CAPability measure for older people (ICECAP-O) outcome measures

A search strategy was designed to identify studies reporting ASCOT or ICECAP-O outcome measures in MEDLINE (Ovid). The final MEDLINE strategy used is shown in Figure 3.1.

The search comprised 2 concepts: ASCOT (search lines 1 to 10) OR ICECAP (search line 11).

The strategy was devised using a combination of free text search terms in the title, abstract and keyword heading word fields. Clearly irrelevant material that used the same acronym as ASCOT was excluded using NOT (search lines 4 to 10). This included records referring to the A Severity Characterisation of Trauma scale and the Anglo-Scandinavian Cardiac Outcome Trial. The search strategy was only designed to identify studies where the named measure was explicitly referred to in the title, abstract or keyword heading word fields of the database record. It was not designed to identify studies where the named measures were only referred to in the full text.

The search strategy excluded animal studies from MEDLINE using a standard algorithm (search line 13) and also excluded publication types which were unlikely to yield relevant information (news items, comments, editorials, letters, and single case reports) and records with the phrase ‘case report’ in the title field (search line 14).
Figure 3.1: ASCOT and ICECAP search strategy: final strategy used for Ovid MEDLINE(R) and Epub Ahead of Print, In-Process & Other Non-Indexed Citations and Daily

1. ascot.ti,ab,kf. (334)
2. (adult social care outcome$ tool-kit$ or adult social care outcome$ toolkit$).ti,ab,kf. (26)
3. 1 or 2 (339)
4. (severity characterisation of trauma or severity characterization of trauma).ti,ab,kf. (30)
5. (trauma$. adj3 (score$ or scoring or survival or outcome$)).ti,ab,kf. (8108)
6. (triss or injury severity score or glasgow coma scale).ti,ab,kf. (14786)
7. (hypertension or hypertensive$ or antihypertensive$ or blood pressure$ or coronary or cardiovascular).ti. (529185)
8. (AngloScandinavian Cardiac Outcome$ Trial or Anglo-Scandinavian Cardiac Outcome$ Trial).ti,ab,kf. (147)
9. or/4-8 (549590)
10. 3 not 9 (113)
11. (icecap or icepop or icecapo or icecapa).ti,ab,kf. (95)
12. 10 or 11 (199)
13. exp animals/ not humans/ (4490072)
14. (news or comment or editorial or letter or case reports).pt. or case report.ti. (3575020)
15. 12 not (13 or 14) (173)
16. remove duplicates from 15 (173)

Key to Ovid symbols and commands:

$ Unlimited right-hand truncation symbol

ti,ab,kf Searches are restricted to the Title, Abstract or Keyword Heading Word fields

adjN Retrieves records that contain terms (in any order) within a specified number (N) of words of each other

/ Searches are restricted to the Subject Heading field

exp The subject heading is exploded

pt. Search is restricted to the publication type field

or/4-8 Combines sets 4 to 8 using OR

The MEDLINE strategy was translated appropriately for a range of other databases and information resources. Table 3.2 shows the databases and information sources searched. Appendix A contains the full strategies (including search dates) for all sources searched.
Table 3.2: Databases and information sources searched for ASCOT and ICECAP searches

<table>
<thead>
<tr>
<th>Resource</th>
<th>Interface / URL</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEDLINE, MEDLINE In-Process, MEDLINE Daily and Epub Ahead of Print</td>
<td>Ovid SP</td>
</tr>
<tr>
<td>Embase</td>
<td>Ovid SP</td>
</tr>
<tr>
<td>Cochrane Central Register of Controlled Trials (CENTRAL)</td>
<td>Cochrane Library / Wiley</td>
</tr>
<tr>
<td>Applied Social Science Index and Abstracts (ASSIA)</td>
<td>ProQuest</td>
</tr>
<tr>
<td>Social Policy and Practice (includes Social Care Online database)</td>
<td>Ovid SP</td>
</tr>
<tr>
<td>Social Services Abstracts</td>
<td>ProQuest</td>
</tr>
<tr>
<td>CINAHL Plus</td>
<td>EBSCO</td>
</tr>
<tr>
<td>EconLit</td>
<td>Ovid SP</td>
</tr>
<tr>
<td>PsycINFO</td>
<td>Ovid SP</td>
</tr>
<tr>
<td>NHS Economic Evaluation Database (NHS EED)</td>
<td>CRD Database</td>
</tr>
<tr>
<td>ScHARRHud</td>
<td><a href="https://www.scharrhud.org/">https://www.scharrhud.org/</a></td>
</tr>
<tr>
<td>ASCOT webpages</td>
<td><a href="https://www.pssru.ac.uk/ascot/">https://www.pssru.ac.uk/ascot/</a></td>
</tr>
</tbody>
</table>

3.2.3 Targeted, pragmatic searches for economic evaluations, resource use or health state utility value studies of social care interventions in older people

A pragmatic search strategy was developed in Social Policy and Practice (Ovid) to identify studies of social care interventions in older people which were economic evaluations or which reported on resource outcomes or health state utility values (HSUVs). The final Social Policy and Practice strategy used is shown in Figure 3.2.

The research team decided that the overall search approach and selection of search terms should be informed by the searches undertaken to inform the recent NICE commissioned, Centre for Health Economics (CHE) scoping review of social care economic evaluation methods.²

² https://www.york.ac.uk/media/che/documents/papers/researchpapers/CHERP150_social_care_evaluation_methods.pdf
The search comprised 3 concepts:

- older people (search lines 1 to 4)
- economic evaluations / resource use (search lines 5 to 26)
- HSUVs (search lines 27 to 40)

The concepts were combined as follows: older people AND (economic evaluations / resource use OR HSUVs).

The strategy was devised using free text search terms in the title, abstract, descriptors and heading word fields. Resource use terms used were designed to identify records which explicitly refer to generic resource use (e.g. hospitalisation or admission) or resource use specific to placement in residential care. HSUV terms were designed to identify records which explicitly included terms highly relevant to the HSUVs concept.

In order to target the most recent research the search strategy was limited to studies published from 2008 to date.

Figure 3.2: Economic, resource use and HSUV studies search strategy for Social Policy and Practice (Ovid)

1 (elder$ or aging or geriatric$ or gerontol$ or senior citizen$ or seniors or pensioner$ or veteran$ or sexagenarian$ or septuagenarian$ or octogenarian$ or nonagenarian$ or centenarian$).ti,ab,de,hw. (38011)
2 ((old or older or aged) adj3 (patient$1 or people$ or person$ or woman$ or women$ or man or mans or men or mens or male$1 or female$ or adult$ or population$ or resident$ or client$ or consumer$ or service user$ or community or communities or individual$ or citizen$)).ti,ab,de,hw. (86019)
3 (aged care or old$ age or oldest old or later life).ti,ab,de,hw. (7557)
4 or/1-3 (90887)
5 (((economic$ or cost$) adj3 model$) or (monte carlo or markov$)).ti,ab,de,hw. (710)
6 ((econom$ or cost or costs or costing or price or pricing) adj3 (analysis or analyses or evaluation$1 or study or studies)).ti,ab,de,hw. (2870)
7 ((economic$ or cost) adj3 (effect$ or utilit$ or benefit$ or consequence$ or outcome$1 or minimi$)).ti,ab,de,hw. (5577)
8 ((economic$ or cost or costs or value) adj4 (decision$1 or threshold$)).ti,ab,de,hw. (163)
9 (value adj2 (money or monetary$)).ti,ab,de,hw. (1374)
10 (return on investment or ROI).ti,ab,de,hw. (139)
11 budget impact$.ti,ab,de,hw. (2)
12 (decision$ adj2 (tree$ or analy$ or model$)).ti,ab,de,hw. (485)
13 resource$.ti. (1849)
14 (resource$1 adj4 (use$1 or usage or utilit$ or utilis$ or utiliz$)).ti,ab,de,hw. (1453)
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(visit or visits or visited).ti,ab,de,hw. (3217)
appointment$.ti,ab,de,hw. (897)
(hospitalization$1 or hospitalisation$1 or hospitalised or hospitalized).ti,ab,de,hw. (961)
(admission$1 or readmission$1 or admitted or readmitted).ti,ab,de,hw. (5168)
(placement$ or care package$ or support package$).ti,ab,de,hw. (7425)
((place$ or move$ or moving) adj3 (home$1 or facility or facilities or residential)).ti,ab,de,hw. (1824)
hospital stay$.ti,ab,de,hw. (234)
(bed adj3 day$1).ti,ab,de,hw. (90)
((days or time or length or duration$1) adj3 (hospital$ or home$1 or facility or facilities or residential)).ti,ab,de,hw. (633)
((days or time or length or duration$1) adj3 (stay or stays or stayed)).ti,ab,de,hw. (543)
((days or time or length or duration$1) adj3 (discharge or discharged)).ti,ab,de,hw. (86)
or/5-25 (29430)
(quality adjusted or adjusted life year$).ti,ab,de,hw. (101)
(qaly$ or qald$ or qale$ or qtime$).ti,ab,de,hw. (73)
(illness state$1 or health state$1).ti,ab,de,hw. (52)
(hui or hui1 or hui2 or hui3).ti,ab,de,hw. (8)
(multiattribute$ or multi attribute$).ti,ab,de,hw. (6)
(utility adj3 (score$1 or valu$ or health$ or cost$ or measur$ or disease$ or mean or gain or gains or index$)).ti,ab,de,hw. (99)
(utility loss$ or disutilit$).ti,ab,de,hw. (3)
utilities.ti,ab,de,hw. (220)
(eq-5d or eq5d or eq-5 or eq5 or euro qual or euroqual or euro qual5d or euroqual5d or euro qol or euroqol or euro qol5d or euroqol5d or euro qual or euroqual or euro qual5d or euroqual5d or eur qol or eurqol or eur qol5d or eurqol5d or eur?qual or eur?qual5d or eur$ quality of life or european qol).ti,ab,de,hw. (112)
(euro$ adj3 (5 d or 5d or 5 dimension$ or 5dimension$ or 5 domain$ or 5domain$)).ti,ab,de,hw. (18)
sf$.ti,ab,de,hw. (511)
(short form$ or shortform$).ti,ab,de,hw. (285)
(time trade off$1 or time tradeoff$1 or tto or timetradeoff$1).ti,ab,de,hw. (8)
or/27-39 (1209)
4 and 26 (7942)
4 and 40 (464)
41 or 42 (8288)
limit 43 to yr="2008 -Current" (3006)
remove duplicates from 44 (2995)
The Social Policy and Practice strategy was translated appropriately for a range of other databases and information resources. Searches were conducted primarily in resources that contain social care or economic research. Reflecting the pragmatic search context, the research team decided that large, multidisciplinary databases (e.g. Scopus, Science and Social Science Citation Indexes) or biomedical databases (MEDLINE, Embase) would not be included.

The structure of the search in each resource was informed by the coverage of the resource and the number of records returned. For non-social care resources, an additional social care interventions and settings context concept was introduced. In the absence of specific, agreed named interventions of interest, the research team agreed that terms for this concept would be informed by the terms used in the strategies in the Centre for Health Economics (CHE) scoping review of social care economic evaluation methods\(^3\), terms used to describe interventions in the eligibility criteria, and terms used to describe interventions in the project initiation document. An English language limit was applied where this was appropriate and supported by the database. In particularly high yielding databases, an additional limit to focus on UK studies was added.

Table 3.3 shows the databases and information sources searched. Appendix AB contains the full strategies (including search dates) for all sources searched.

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\(^3\) [https://www.york.ac.uk/media/che/documents/papers/researchpapers/CHERP150_social_care_evaluation_methods.pdf](https://www.york.ac.uk/media/che/documents/papers/researchpapers/CHERP150_social_care_evaluation_methods.pdf)
Table 3.3: Databases and information sources searched for economic evaluations, resource use or health state utility value studies of social care interventions in older people

<table>
<thead>
<tr>
<th>Resource</th>
<th>Interface / URL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Social Science Index and Abstracts</td>
<td>ProQuest</td>
</tr>
<tr>
<td>(ASSIA)</td>
<td></td>
</tr>
<tr>
<td>Social Policy and Practice</td>
<td>Ovid SP</td>
</tr>
<tr>
<td>Social Services Abstracts</td>
<td>ProQuest</td>
</tr>
<tr>
<td>EconLit</td>
<td>Ovid SP</td>
</tr>
<tr>
<td>PsycINFO</td>
<td>Ovid SP</td>
</tr>
<tr>
<td>NHS Economic Evaluation Database (NHS EED)</td>
<td>CRD Database</td>
</tr>
<tr>
<td>ScHARRHud</td>
<td><a href="https://www.scharrhud.org/">https://www.scharrhud.org/</a></td>
</tr>
<tr>
<td>Campbell Collaboration Library</td>
<td><a href="https://campbellcollaboration.org/library.html">https://campbellcollaboration.org/library.html</a></td>
</tr>
<tr>
<td>Database of Abstracts of Reviews of Effects</td>
<td>CRD Database</td>
</tr>
<tr>
<td>(DARE)</td>
<td></td>
</tr>
<tr>
<td>Cochrane Database of Systematic Reviews</td>
<td>Cochrane Library / Wiley</td>
</tr>
<tr>
<td>(CDSR)</td>
<td></td>
</tr>
</tbody>
</table>

3.2.3 Harvesting of studies from relevant studies and reviews

The economic reviews undertaken to inform the following NICE guidance were checked for eligible studies:

- NG74 intermediate care including reablement
- NH22 older people with social care needs and multiple long-term conditions
- NG21 home care - delivering care and practical support to older people living in their homes
- NG96 care and support of older people growing older with learning disabilities
- NG32 older people - independence and wellbeing

Studies were also harvested from existing relevant reviews known to the research team or identified by previous rounds of searching.

3.2.4 Targeted web searches

Targeted searches of the webpages of the following key organisations were conducted:

- Public Health England
- National Institute for Health and Care Excellence
- Social Care Institute for Excellence
- Personal Social Services Research Unit
- Economics of Social and Health Care Research Unit
- EPPI-Centre
- Age UK
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- Joseph Rowntree Foundation
- Association of Directors of Adult Social Services
- King’s Fund
- Nuffield Trust
- Centre for Ageing and Development Research Ireland
- Institute for Research and Innovation in Social Services
- NIHR School for Social Care Research

Details of the targeted web searches are found in Appendix AC.

3.2.5 Material provided from PHE and topic experts

No formal call for evidence was carried out, but studies passed to us by PHE, the steering group, or otherwise known to the research team were eligible for inclusion.

3.2.6 Citation searches and/or author searches

The project protocol stated that all search stages might not be required should sufficient evidence be identified by the earlier rounds. The research team decided that sufficient evidence had been identified by the earlier rounds of searching, therefore this round of searching was not required.

3.2.7 Gap filling searches

Following the assessment and prioritisation stages it was agreed that some further targeted searches would be conducted to seek evidence of interventions with evidence of economic impact but where literature was lacking some details for the purposes of developing the ROI tool. Searches were conducted for further evidence on the following interventions:

- inter-professional working
- self-management for COPD
- telecare/assistive technology
- hospital discharge support (INTERCOM)

Details of the search strategies used are found in Appendix AD.
3.3 Search results

The searches identified 9,201 records (Table 3.4). Following deduplication, 5,441 records were assessed for relevance by screening against the agreed eligibility criteria using title and abstract.

Table 3.4: Literature search results

<table>
<thead>
<tr>
<th>ASCOT and ICECAP searches</th>
<th>Number of records identified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource</td>
<td>Number of records identified</td>
</tr>
<tr>
<td>MEDLINE, MEDLINE In-Process, MEDLINE Daily and Epub Ahead of Print</td>
<td>173</td>
</tr>
<tr>
<td>Embase</td>
<td>196</td>
</tr>
<tr>
<td>Cochrane Central Register of Controlled Trials (CENTRAL)</td>
<td>50</td>
</tr>
<tr>
<td>Applied Social Science Index and Abstracts (ASSIA)</td>
<td>25</td>
</tr>
<tr>
<td>Social Policy and Practice</td>
<td>38</td>
</tr>
<tr>
<td>Social Services Abstracts</td>
<td>22</td>
</tr>
<tr>
<td>CINAHL Plus</td>
<td>130</td>
</tr>
<tr>
<td>EconLit</td>
<td>12</td>
</tr>
<tr>
<td>PsycINFO</td>
<td>62</td>
</tr>
<tr>
<td>NHS Economic Evaluation Database (NHS EED)</td>
<td>7</td>
</tr>
<tr>
<td>SchARRHud</td>
<td>6</td>
</tr>
<tr>
<td>ASCOT webpages</td>
<td>27</td>
</tr>
<tr>
<td>ICECAP webpages</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total number of records retrieved</strong></td>
<td>754</td>
</tr>
<tr>
<td><strong>Total number of records after deduplication</strong></td>
<td>292</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Economic, resource use and HSUV studies searches</th>
<th>Number of records identified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource</td>
<td>Number of records identified</td>
</tr>
<tr>
<td>Applied Social Science Index and Abstracts (ASSIA)</td>
<td>1,837</td>
</tr>
<tr>
<td>Social Policy and Practice (includes Social Care Online database)</td>
<td>2,995</td>
</tr>
<tr>
<td>Social Services Abstracts</td>
<td>490</td>
</tr>
<tr>
<td>EconLit</td>
<td>372</td>
</tr>
<tr>
<td>PsycINFO</td>
<td>882</td>
</tr>
<tr>
<td>NHS Economic Evaluation Database (NHS EED)</td>
<td>871</td>
</tr>
<tr>
<td>SchARRHud</td>
<td>146</td>
</tr>
<tr>
<td>Campbell Collaboration Library</td>
<td>4</td>
</tr>
<tr>
<td>Database of Abstracts of Reviews of Effects (DARE)</td>
<td>260</td>
</tr>
<tr>
<td>Cochrane Database of Systematic Reviews (CDSR)</td>
<td>261</td>
</tr>
<tr>
<td><strong>Total number of records retrieved</strong></td>
<td>8,118</td>
</tr>
<tr>
<td><strong>Total number of records after deduplication (within-set and against the ASCOT and ICECAP search results)</strong></td>
<td>7,154</td>
</tr>
<tr>
<td><strong>Total number of records after ‘first-pass’</strong></td>
<td>5,112</td>
</tr>
</tbody>
</table>
### Targeted web searches

<table>
<thead>
<tr>
<th>Resource</th>
<th>Number of records identified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Health England website</td>
<td>22</td>
</tr>
<tr>
<td>National Institute for Health and Care Excellence website</td>
<td>10</td>
</tr>
<tr>
<td>Social Care Institute for Excellence website</td>
<td>58</td>
</tr>
<tr>
<td>Personal Social Services Research Unit website</td>
<td>104</td>
</tr>
<tr>
<td>Economics of Social and Health Care Research Unit website</td>
<td>3</td>
</tr>
<tr>
<td>EPPI-Centre website</td>
<td>4</td>
</tr>
<tr>
<td>Age UK website</td>
<td>44</td>
</tr>
<tr>
<td>Joseph Rowntree Foundation website</td>
<td>14</td>
</tr>
<tr>
<td>Association of Directors of Adult Social Services website</td>
<td>3</td>
</tr>
<tr>
<td>King's Fund website</td>
<td>18</td>
</tr>
<tr>
<td>Nuffield Trust website</td>
<td>11</td>
</tr>
<tr>
<td>Centre for Ageing and Development Research Ireland website</td>
<td>1</td>
</tr>
<tr>
<td>Institute for Research and Innovation in Social Services website</td>
<td>1</td>
</tr>
<tr>
<td>NIHR School for Social Care Research website</td>
<td>5</td>
</tr>
<tr>
<td>Additional (e.g. following links)</td>
<td>13</td>
</tr>
<tr>
<td><strong>Total number of records retrieved</strong></td>
<td><strong>311</strong></td>
</tr>
</tbody>
</table>

### Harvesting of studies from relevant studies and reviews

| **Total number of records retrieved**                         | 5                            |

### Additional studies (e.g. material provided from PHE and topic experts)

| **Total number of records retrieved**                         | **13**                       |

**TOTAL number of records retrieved**

| **TOTAL number of records for screening**                     | **9,201**                    |

The additional targeted searches found a small number of additional records, as shown in Table 3.5.

### Table 3.5: Outcome of the targeted literature searches

<table>
<thead>
<tr>
<th>Intervention</th>
<th>No. records after screening for relevance</th>
<th>No. records after assessing for economic evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-management for COPD</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>Telecare / assistive technology</td>
<td>21</td>
<td>2</td>
</tr>
<tr>
<td>Hospital discharge</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Inter professional working</td>
<td>9</td>
<td>2</td>
</tr>
</tbody>
</table>
4. Assessment and priorisation of interventions

Following title/abstract screening of the 5,441 records, 150 were found to contain potentially relevant information.

In order to arrive at this set of interventions, a process of assessment and prioritisation was followed, as described below:

1. Preliminary data extraction
2. Stakeholder / expert workshop
3. Confidence in the evidence of cost effectiveness
4. Assessment of where benefits fall
5. Full data extraction
6. Assessment of population information and UK relevance
7. Assessment of modelling assumptions
8. Additional targeted literature searching
9. Final assessment

An overview of the process is shown in Figure 4.1. For practical reasons, in the early stages of the review work, papers were grouped into ‘intervention types’ e.g. care co-ordination, housing, telecare. Following the full data extraction stage, the interventions included in each paper were no longer grouped and were reported individually as ‘individual interventions’. The interventions which were removed at each of these stages is summarised in Table 4.1.
Figure 4.1: Overview of the Assessment and Prioritisation Process

1. Intervention types identified following screening and full text review:
   42 intervention types (150 records)

2. Preliminary data extraction:
   - Stakeholder workshop;
   - Assessment of confidence in evidence of cost-effectiveness.
   
   13 interventions types removed

3. Assessment of where benefits fall for 29 intervention types
   
   5 interventions types removed

4. Full data extraction of 24 intervention types
   (106 individual records)
   
   10 interventions types removed

5. Assessment of population information and UK relevance for 14 intervention types
   (20 individual interventions)
   
   4 individual interventions removed

6. Targeted literature searching:
   - One record replaced
   - Inter-professional working

7. Final assessment of 16 individual interventions
   
   7 individual interventions removed

8. 9 interventions included in the ROI tool
### Table 4.1: Intervention removed at each stage of the assessment and prioritisation process

<table>
<thead>
<tr>
<th>Stage</th>
<th>Interventions / intervention types removed</th>
</tr>
</thead>
</table>
| Confidence in the evidence | Various support for carers  
Community capacity: Other (various)  
Integration: Geriatric/frailty intervention  
Self-management: Diabetes (DESMOND)  
Self-management: Other  
Care co-ordination: Preventive home visits  
Dementia: Carers support  
Dementia: Case management  
Integration: Community MH teams  
Self-management: Telephone linked care  
Telehealth (COPD)  
Telehealth (CVD)  
Individual budgets |
| Assessment of where benefits fall | Housing: Other  
Integration: Other  
Timebanks  
Warm homes scheme  
Telehealth (multiple conditions) |
| Full data extraction | Patient / community navigators: Community Agents (Redcar & Cleveland)  
Dementia: non-pharmacological interventions: Tailored Activity Program (TAP) in USA  
Dementia: non-pharmacological interventions: range of cognitive, exercise, music therapy  
Housing adaptations and modifications: preventive housing interventions for disabled and vulnerable  
Housing adaptations and modifications: five-year investment programme to upgrade dwellings to a ‘Lambeth Housing Standard’  
Integration: Inter-professional working: integrated care for elderly depressed patients in USA  
Integration: Inter-professional working: proactive case coordination  
Integration: Inter-professional working: services provided to people with long term conditions and other complex needs  
Physical activity: Community based schemes: for stroke survivors and carers/family  
Physical activity: Community based schemes: weekly 2-hour sessions with OT in USA  
Physical activity: Community based schemes: ‘Be Active’ Birmingham – residents’ free access to leisure centres  
Physical activity: Community based schemes: time-limited exercise classes (VCS) -’T’ai Chi course; a chiropody service; a rehabilitation course  
Practical support: Help at home schemes: preventative support services (handyperson, telecare, equipment, housing support)  
Practical support: Help at home schemes: community POPPS projects: e.g. housing repairs, gardening squads etc.  
Practical support: Help at home schemes: Living Well scheme (volunteer led)  
Reablement: general: bed based intermediate care  
Reablement: rehabilitation: 3-week intensive exercise training (IET) program directly following hospital discharge in patients with rheumatic diseases in the Netherlands |
The purpose of the preliminary data extraction was to inform the feasibility assessment and assess the extent of evidence on the different intervention types found in the literature review. The information extracted for each record was agreed by the Steering Group, as follows:

<table>
<thead>
<tr>
<th>Heading</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bibliographic details</td>
<td>Author, title, publication details</td>
</tr>
<tr>
<td>Intervention</td>
<td>What is the intervention?</td>
</tr>
<tr>
<td>Category</td>
<td>Selected from a drop-down list of categories and sub-categories</td>
</tr>
<tr>
<td>Comparator</td>
<td>What is the intervention being compared to?</td>
</tr>
<tr>
<td>Study design</td>
<td>e.g. RCT, cohort study</td>
</tr>
<tr>
<td>Age of study population</td>
<td>Describe age of patients/service users in 'study'</td>
</tr>
<tr>
<td>Country</td>
<td>What country did the intervention take place in?</td>
</tr>
<tr>
<td>Scale of intervention</td>
<td>e.g. community singing in one community would be classed as small; Extracare housing would be large</td>
</tr>
<tr>
<td>Payer</td>
<td>Which organisation pays for the intervention e.g. health/social care/joint funding?</td>
</tr>
<tr>
<td>Beneficiary</td>
<td>Which organisation benefits from the intervention? Where do the benefits fall?</td>
</tr>
<tr>
<td>Results</td>
<td>Brief summary of what the evidence is saying/which outcomes are measured? i.e. patient outcomes, resource use</td>
</tr>
<tr>
<td>Strength of evidence</td>
<td>High/medium/low - overall assessment of how good the evidence is based on study design and results</td>
</tr>
<tr>
<td>Notes</td>
<td>Any other important details</td>
</tr>
</tbody>
</table>
To facilitate discussion of the literature findings at this stage, the interventions were grouped into categories and sub-categories. These can be seen in Table 4.2.

Table 4.2: Intervention categories and sub-categories

<table>
<thead>
<tr>
<th>Category</th>
<th>Sub-category</th>
<th>Number of records</th>
</tr>
</thead>
<tbody>
<tr>
<td>Care co-ordination</td>
<td>Patient / community navigators</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Preventive home visits (care co-ordination)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Bundle of VCS services for people with LTCs</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>1</td>
</tr>
<tr>
<td>Carers</td>
<td>Various support for carers</td>
<td>1</td>
</tr>
<tr>
<td>Community capacity</td>
<td>Social isolation/tackling loneliness</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Community arts</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Befriending</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Day services for older people</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Timebanks</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>6</td>
</tr>
<tr>
<td>Dementia</td>
<td>Carers support</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Case management</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Early diagnosis</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Nursing home interventions /tailored activity, OT, CST</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Non-pharmacological interventions</td>
<td>1</td>
</tr>
<tr>
<td>Housing</td>
<td>Extracare/lifestyle housing</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Handyperson scheme /care and repair</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Housing adaptations and modifications</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Sheltered housing/ specialist housing schemes</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Warm homes scheme</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>3</td>
</tr>
<tr>
<td>Integration</td>
<td>Community MH teams</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Geriatric/frailty intervention</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Hospital discharge support</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Inter-professional working</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>2</td>
</tr>
<tr>
<td>Physical activity</td>
<td>Community based schemes</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Remote support (e.g. telephone)</td>
<td>2</td>
</tr>
<tr>
<td>Practical support</td>
<td>Help at home schemes</td>
<td>8</td>
</tr>
<tr>
<td>Reablement</td>
<td>General</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>Rehabilitation</td>
<td>8</td>
</tr>
<tr>
<td>Self-management</td>
<td>Chronic pain</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>COPD</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Diabetes (DESMOND)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Telephone linked care</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>1</td>
</tr>
<tr>
<td>Telecare/telehealth</td>
<td>Assistive technology at home</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Telehealth (COPD)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Telehealth (CVD)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Telehealth (multiple conditions)</td>
<td>2</td>
</tr>
<tr>
<td>Other</td>
<td>Individual budgets</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Multiple interventions</td>
<td>11</td>
</tr>
</tbody>
</table>
The strength of the evidence for the different interventions varied, from single case studies, to RCTs and systematic reviews. A judgement on strength of evidence was made, based on a combination of the study design and the results reported. For example, if a strong study design, such as a randomised control trial, concluded that evidence for cost effectiveness was weak, this was classified as low strength evidence of cost effectiveness. Equally, if a single case study found positive results, this was classed as low strength evidence, due to the study design. Interventions were eligible for inclusion whether they were more effective and less costly or more effective and more costly. If a strong study design showed weak evidence, this was still classed as weak evidence. The records judged to have stronger evidence of cost effectiveness were those with strong study design and showing positive results. Where there were several studies for one type of intervention, there was often a combination of study designs, so the overall judgement was based on the evidence across the different study designs.

The strength of evidence for the different categories, based on the approach described above, is summarised in Table 4.3.

**Table 4.3: Summary of evidence strength for intervention categories**

<table>
<thead>
<tr>
<th>Strength of evidence of cost effectiveness/cost impact</th>
<th>Intervention</th>
</tr>
</thead>
</table>
| Strong                                                 | Dementia: Early diagnosis  
Dementia: Nursing/care home intervention  
Dementia: Non-pharmacological interventions  
Physical activity: Community based schemes |
| Strong/medium                                          | Care co-ordination: Patient navigators  
Dementia: Carers support  
Housing: Extracare/lifestyle housing  
Integration: Geriatric/frailty intervention  
Physical activity: Remote support  
Reablement: General reablement  
Reablement: Rehabilitation  
Self-management: Diabetes |
| Medium                                                 | Care co-ordination: Bundle of VCS services for people with LTCs  
Care co-ordination: Local area co-ordination  
Community capacity: Community singing  
Dementia: Case management  
Housing: Sheltered housing/ specialist housing schemes  
Housing: Warm homes scheme  
Practical support/help at home  
Self-management: COPD  
Self-management: Chronic pain  
Self-management: ‘self-assessment for low level services’  
Telecare/telehealth: Telehealth (COPD)  
Telecare/telehealth: Telehealth (CVD) |
| Medium/low                                             | Community capacity: Befriending  
Community capacity: Social isolation/loneliness  
Community capacity: Day services for older people  
Housing: Housing adaptations and modifications  
Housing: Other |
The older adults’ NHS and social care return on investment tool

<table>
<thead>
<tr>
<th>Strength of evidence of cost effectiveness/cost impact</th>
<th>Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Integration: Hospital discharge support:</td>
</tr>
<tr>
<td></td>
<td>Integration: Inter-professional working</td>
</tr>
<tr>
<td></td>
<td>Integration: other</td>
</tr>
<tr>
<td></td>
<td>Telecare/telehealth: Telecare/assistive technology at home</td>
</tr>
<tr>
<td>Low</td>
<td>Care co-ordination: home visits</td>
</tr>
<tr>
<td></td>
<td>Carers support</td>
</tr>
<tr>
<td></td>
<td>Community capacity: timebanks</td>
</tr>
<tr>
<td></td>
<td>Housing: Handyperson scheme/care and repair</td>
</tr>
<tr>
<td></td>
<td>Integration: Community MH teams</td>
</tr>
<tr>
<td></td>
<td>Telecare/telehealth: Telehealth (multiple conditions)</td>
</tr>
</tbody>
</table>

### 4.2 Stakeholder/expert workshop

A stakeholder workshop was held on 22 November 2019 to obtain views on the outcome of the preliminary data extraction and advise on the best way to use the evidence. Following the workshop discussion, it was agreed that the next stage of prioritisation should focus on ‘confidence in the evidence’, ranking the interventions according to this criterion. The attendees at the workshop advised that while the ‘hierarchy of evidence’ could inform this assessment, evidence based on less robust methods (e.g. case studies) should not be dismissed, due to the difficulty of carrying out studies such as RCTs in a social care context.

### 4.3 Further examination of confidence in evidence of cost effectiveness

The aim of doing a further assessing of the ‘confidence in the evidence’ was to produce a 'long-list' for further consideration, removing those interventions where there was low confidence in the cost-effectiveness evidence. A score and comment was allocated to each intervention type, based on the number of records for each intervention type showing positive cost-effectiveness results, quality of study design and country of evidence, as follows.

Concepts relevant to judging confidence on evidence:

- **Number of records supporting case for cost effectiveness (i.e. positive results):**
  - More than one record showing positive results (2)
  - One record showing positive results (1)
  - Mixed results from more than one record (1)
- **Quality of study design - regardless of hierarchy of evidence (requires a quick assessment of the paper – full critical appraisal not practical at this stage):**
  - All well designed studies (2)
  - Mixed quality of study design (1)
  - All average/poorly designed studies (0)
• Country of evidence:
  o UK only (2)
  o International including UK (1)
  o Overseas only (0)

Based on the total score and summary comments, a recommendation whether to take each intervention forward was made (Yes, Maybe or No). Following a steer from PHE, the interventions categorised as No were dropped at this point. The interventions removed at this stage are shown in Table 4.1.

4.4 Assessment of where benefits fall

It was viewed to be important that the interventions included in the tool contributed economic benefit to either social care services and/or societal benefits in the form of improved quality of life (evidenced by QALY measurement). It was decided that those interventions which only showed financial benefits to the NHS and had no impact on social care services or quality/quantity of life, should be dropped as they were not relevant to the scope of the project. The records were reviewed for this information and those without benefits to health or social care services were dropped. The outcome of this assessment can be seen in Table 4.4.
Table 4.4: ‘Yes’ and ‘Maybe’ interventions screened for benefits reported

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Score</th>
<th>Take forward to Stage 2?</th>
<th>Comments</th>
<th>Social care</th>
<th>NHS</th>
<th>Wellbeing</th>
<th>QOL measure</th>
<th>Comments from screening</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extracare/lifestyle housing: compared to usual housing</td>
<td>6</td>
<td>Yes</td>
<td>Evidence split for the purposes of different comparator but consider as one intervention for Stage 2.</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>KEEP</td>
</tr>
<tr>
<td>Extracare/lifestyle housing: compared to a care setting</td>
<td>6</td>
<td>Yes</td>
<td></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>KEEP</td>
</tr>
<tr>
<td>Help at home schemes</td>
<td>6</td>
<td>Yes</td>
<td>All UK evidence</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>KEEP</td>
</tr>
<tr>
<td>Community singing</td>
<td>5</td>
<td>Yes</td>
<td>Evidence seems good</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>KEEP</td>
</tr>
<tr>
<td>Dementia: Non-pharmacological interventions</td>
<td>5</td>
<td>Yes</td>
<td>Evidence seems good</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>NICE review contains different interventions - mostly cognitive or exercise-based therapies. Main outcome of US study is benefits to time spent care giving / carer burden KEEP.</td>
</tr>
<tr>
<td>Housing adaptations and modifications</td>
<td>5</td>
<td>Yes</td>
<td>These interventions are to some extent similar to the handyperson scheme, depending on scale. Be clear about the scale of the intervention if included in tool.</td>
<td>???</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>More emphasis on health benefits but social care institutional benefits are mentioned. KEEP</td>
</tr>
<tr>
<td>Integration: Hospital discharge support</td>
<td>5</td>
<td>Yes</td>
<td>Nature and scale of interventions reported on is variable so will need to be clear on specific intervention if included in tool.</td>
<td>???</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>More emphasis on health/healthcare benefits. Social care institutional benefits speculated. KEEP</td>
</tr>
<tr>
<td>Integration: Inter-professional working</td>
<td>5</td>
<td>Yes</td>
<td>Nature and scale of interventions reported on is variable so will need to be clear on specific intervention if included in tool.</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>KEEP</td>
</tr>
<tr>
<td>Intervention</td>
<td>Outcome of Stage 1 Prioritisation</td>
<td>Benefits reported</td>
<td>Comments from screening</td>
<td></td>
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<tr>
<td></td>
<td>Score</td>
<td>Take forward to Stage 2?</td>
<td>Comments</td>
<td>Social care</td>
<td>NHS</td>
<td>Wellbeing</td>
<td>QOL measure</td>
<td></td>
</tr>
<tr>
<td>Physical activity: Community based schemes</td>
<td>5</td>
<td>Yes</td>
<td>Several different types of interventions listed, so need to be clear on specific intervention if included in tool. Intervention for city dwellers is possibly less relevant for the target age group for the tool.</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>KEEP</td>
</tr>
<tr>
<td>Reablement: General</td>
<td>5</td>
<td>Yes</td>
<td>Good range of evidence, possibly reflecting the research focus on what was a 'new model of care' development when first introduced.</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>KEEP</td>
</tr>
<tr>
<td>Assistive technology at home</td>
<td>5</td>
<td>Yes</td>
<td>All UK evidence</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>KEEP</td>
</tr>
<tr>
<td>Patient / community navigators</td>
<td>4</td>
<td>Yes</td>
<td>Good US evidence and UK case study shows potential but need more info.</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>KEEP</td>
</tr>
<tr>
<td>Befriending</td>
<td>4</td>
<td>Yes</td>
<td>Evidence seems good</td>
<td>NR</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Refer to Knapp et al (5457) for further evidence and modelling. Cost savings mentioned more in NHS. KEEP</td>
</tr>
<tr>
<td>Day services for older people</td>
<td>4</td>
<td>Yes</td>
<td>Information from case study is sparse</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Benefits to resource use are implied. KEEP</td>
</tr>
<tr>
<td>Intervention</td>
<td>Outcome of Stage 1 Prioritisation</td>
<td>Benefits reported</td>
<td>Comments from screening</td>
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<tr>
<td></td>
<td>Score</td>
<td>Take forward to Stage 2?</td>
<td>Comments</td>
<td>Social care</td>
<td>NHS</td>
<td>Wellbeing</td>
<td>QOL measure</td>
<td>screenng</td>
</tr>
<tr>
<td>Handyperson scheme/care and repair</td>
<td>4</td>
<td>Maybe</td>
<td>Main cost savings seem to come from prevented falls so may be overlap with other ROI tool?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Some benefits arise from falls prevention. Home assessment and modification is one of the 4 interventions in the falls ROI tool. Need to see more detail in papers to know if social care benefits arise only from falls prevention vs generally maintaining independence. KEEP</td>
</tr>
<tr>
<td>Housing: Other</td>
<td>4</td>
<td>Maybe</td>
<td>Interventions are multi-faceted, including some of the other housing interventions already listed. There may be the potential to focus on the impact on delayed discharge and social care placements.</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td></td>
<td>Health service focussed: helping with hospital discharges. Examples of GPs involved in MDT housing interventions. LOSE</td>
</tr>
<tr>
<td>Integration: Other</td>
<td>4</td>
<td>Maybe</td>
<td>Mental health support may be more relevant than the advance care planning intervention.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Advance care planning has better study design than mental health. LOSE</td>
</tr>
<tr>
<td>Reablement: Rehabilitation</td>
<td>4</td>
<td>Maybe</td>
<td>Evidence of cost effectiveness seems mixed.</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>KEEP</td>
</tr>
<tr>
<td>Self-management: Chronic pain</td>
<td>4</td>
<td>Maybe</td>
<td>Benefits mostly in healthcare and for patient wellbeing</td>
<td>Yes</td>
<td></td>
<td>Yes</td>
<td>KEEP</td>
<td></td>
</tr>
<tr>
<td>Self-management: COPD</td>
<td>4</td>
<td>Maybe</td>
<td>Benefits mostly in healthcare and for patient wellbeing</td>
<td>Yes</td>
<td></td>
<td>Yes</td>
<td>KEEP</td>
<td></td>
</tr>
<tr>
<td>Intervention</td>
<td>Outcome of Stage 1 Prioritisation</td>
<td>Benefits reported</td>
<td>Comments from screening</td>
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<tr>
<td>Bundle of VCS services for people with LTCs</td>
<td>Score 3</td>
<td>Take forward to Stage 2?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Good evidence but just one study on bundle of voluntary and community sector (VCS) services aimed at patients with long-term conditions. QALY implied due to wellbeing values in summary findings. Focus on work, money, feeling positive. Avoided healthcare use mentioned. KEEP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Care co-ordination: Local area coordinators</td>
<td>Score 3</td>
<td>Maybe</td>
<td>Yes</td>
<td>Yes</td>
<td>KEEP</td>
<td>Evidence looks convincing but case studies are heterogeneous so may be tricky to define a 'typical intervention'.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timebanks</td>
<td>Score 3</td>
<td>Maybe</td>
<td>??</td>
<td>Yes</td>
<td>Yes</td>
<td>Not age specific - possibly more focussed on working age adults. Potential savings are speculated. LOSE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community capacity: Other (various)</td>
<td>Score 3</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Too heterogeneous but individual reports include positive economic findings for timebanks, community navigators and befriending. Added evidence for timebanks, community navigators and befriending. Timebanks benefits mainly re employment, Navigators benefits mainly re debt and housing and QOL. Befriending benefits in QOL and health service use.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dementia: Early diagnosis</td>
<td>Score 3</td>
<td>Maybe</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Good evidence but just one study. REDuces nursing home costs. KEEP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dementia: Nursing home interventions</td>
<td>Score 3</td>
<td>Maybe</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Good evidence but just one study. REDuces nursing home costs. KEEP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intervention</td>
<td>Outcome of Stage 1 Prioritisation</td>
<td>Benefits reported</td>
<td>Comments from screening</td>
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<tr>
<td></td>
<td>Score</td>
<td>Take forward to Stage 2?</td>
<td>Comments</td>
<td>Social care</td>
<td>NHS</td>
<td>Wellbeing</td>
<td>QOL measure</td>
<td></td>
</tr>
<tr>
<td>/tailored activity, OT, CST</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sheltered housing/ specialist housing schemes</td>
<td>3</td>
<td>Maybe</td>
<td>Good evidence but just one study</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Social care savings due to falls prevention KEEP</td>
<td></td>
</tr>
<tr>
<td>Warm homes scheme</td>
<td>3</td>
<td>Maybe</td>
<td>Good evidence but just one study</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td>Healthcare benefits only and not quantifiable QOL LOSE</td>
<td></td>
</tr>
<tr>
<td>Physical activity: Remote support (e.g. telephone)</td>
<td>3</td>
<td>Maybe</td>
<td>May be too little UK evidence</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>KEEP</td>
<td></td>
</tr>
<tr>
<td>Telehealth (multiple conditions)</td>
<td>3</td>
<td>Maybe</td>
<td>Mixed evidence. Focussed searches would probably find more on this topic.</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td>LOSE</td>
<td></td>
</tr>
</tbody>
</table>
This reduced the number of records in the database to 106, covering 24 intervention types, which were taken forward to the full data extraction stage, as summarised in Table 4.5.

### Table 4.5: Summary results of the Stage 1 prioritisation assessment: intervention types

<table>
<thead>
<tr>
<th>Interventions</th>
<th>Number of interventions</th>
<th>Number of records to extract</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extracare/lifestyle housing: compared to usual housing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extracare/lifestyle housing: compared to a care setting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Help at home schemes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community singing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dementia: Non-pharmacological interventions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Housing adaptations and modifications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integration: Inter-professional working</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical activity: Community based schemes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reablement: General</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assistive technology at home</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Handyperson scheme/care and repair</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reablement: Rehabilitation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Care co-ordination: Local area coordinators</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dementia: Early diagnosis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dementia: Nursing home interventions /tailored activity, OT, CST</td>
<td>24</td>
<td>104</td>
</tr>
<tr>
<td>Sheltered housing/ specialist housing schemes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Befriending</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Day services for older people</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integration: Hospital discharge support</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-management: Chronic pain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-management: COPD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bundle of voluntary and community sector (VCS) services aimed at patients with long-term conditions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient / community navigators</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical activity: Remote support (e.g. telephone)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 4.5 Full data extraction

In order to develop the ROI functionality in the tool, it was necessary to have quantitative information on the inputs and outcomes associated with the intervention. The next step was to undertake a full data extraction, to review the records for specific details on inputs and outcomes so the most appropriate and robust record (and its data) could be selected upon which to base the ROI calculations in the tool. This stage also included a quality assessment based on the Appraisal Checklist for Economic Evaluations, in Appendix H of the NICE Process and Methods manual. The full list of data extraction fields can be found in Appendix C.
The full data extraction resulted in some records being considered unsuitable due to there being insufficient cost information included in the record, or the quality assessment revealing that the record has limitations. There were also 8 ‘duplicates’ found, which were those records reporting the same study in a different source or format.

The table in Appendix D shows the synthesised results from the full data extraction for each intervention (98 excluding duplicates). Where the intervention details are the same, these are listed together. The assessment as to whether to take the intervention forward to the next stage is interpreted as follows:

<table>
<thead>
<tr>
<th>Take forward?</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>There appears to be sufficient information available in the record</td>
</tr>
<tr>
<td>Maybe</td>
<td>Insufficient data available in the paper. Would need further searches to fill the gaps</td>
</tr>
<tr>
<td>No</td>
<td>The record was unsuitable, contained no cost information or was deemed to be poor quality.</td>
</tr>
</tbody>
</table>

The table also includes the population detail specific to each intervention, indicating the local level population data which would be needed for each intervention to be localised. Interventions are UK based unless otherwise stated.

Following discussion with the Steering group, it was agreed that those interventions assessed as ‘Yes’, plus a small number of the ‘Maybes’ would be taken forward. The remainder that were dropped from the long list at this stage are shown in Table 4.6.

**Table 4.6: Interventions removed following full data extraction stage**

<table>
<thead>
<tr>
<th>Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient / community navigators: Community Agents (Redcar &amp; Cleveland)</td>
</tr>
<tr>
<td>Dementia: non-pharmacological interventions: Tailored Activity Program (TAP) in USA</td>
</tr>
<tr>
<td>Dementia: non-pharmacological interventions: range of cognitive, exercise, music therapy</td>
</tr>
<tr>
<td>Housing adaptations and modifications: preventive housing interventions for disabled and vulnerable</td>
</tr>
<tr>
<td>Housing adaptations and modifications: five-year investment programme to upgrade dwellings to a 'Lambeth Housing Standard'</td>
</tr>
<tr>
<td>Integration: Inter-professional working: integrated care for elderly depressed patients in USA</td>
</tr>
<tr>
<td>Integration: Inter-professional working: proactive case coordination</td>
</tr>
<tr>
<td>Integration: Inter-professional working: services provided to people with long term conditions and other complex needs</td>
</tr>
<tr>
<td>Physical activity: Community based schemes: for stroke survivors and carers/family</td>
</tr>
<tr>
<td>Physical activity: Community based schemes: weekly 2-hour sessions with OT in USA</td>
</tr>
<tr>
<td>Physical activity: Community based schemes: ‘BeActive’ Birmingham – residents’ free access to leisure centres</td>
</tr>
<tr>
<td>Physical activity: Community based schemes: time-limited exercise classes (VCS) - T’ai Chi course; a chiropody service; a rehabilitation course</td>
</tr>
<tr>
<td>Practical support: Help at home schemes: preventative support services (handyperson, telecare, equipment, housing support)</td>
</tr>
</tbody>
</table>
### 4.6 Assessment of population information and UK relevance

The intention was for the tool to be pre-populated with local data on the population eligible for each intervention. For some interventions, where the population was less well defined, it was not clear if this would be possible as it included specific characteristics other than age e.g. 50+ years in care homes. The next step was to assess in more detail the population information for each of these interventions, and any information which may be pertinent to ‘transferability’ (i.e. UK relevance).

An assessment was made about the potential availability to the project team of local level data in order to pre-populate the tool. A desk review exercise was undertaken, plus suggestions on data sources were sought from the Steering Group. As a result of this assessment, we recommended excluding interventions where we would be unlikely to find the information, where specific individual level characteristics would make it difficult for local areas to estimate target populations, and where the evidence was from countries where the health and social care systems differed to the UK. The interventions removed at this stage are shown in Table 4.7.
## Table 4.7: Interventions removed from assessment of population data and UK relevance

<table>
<thead>
<tr>
<th>Intervention type (author)</th>
<th>Intervention details</th>
<th>Population information</th>
<th>Likelihood of population information being available</th>
<th>UK relevance</th>
<th>Recommendation on whether to include in next stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient / community navigators (Galbraith et al 2017)</td>
<td>Patient navigators (PNs) working in community on transitional care in USA. Provide hospital visits and outreach visits for 30 days post discharge. The intervention protocol goal was one hospital visit and 3 completed calls. Prior to discharge, the PNs conducted introductory visits with the patient and caregivers to assess post discharge needs; assist patients with communication related to post discharge concerns; discuss the importance of obtaining new medications, having timely outpatient follow-up with the patient’s primary care provider in the CHA (?) system, and reporting concerning symptoms; and arrange for follow-up. They also alerted the patient’s primary care provider about the discharge.</td>
<td>Patients being discharged from hospital described as ‘high-risk safety-net patients’. Patients receiving the intervention had at least one risk factor for readmission (age &gt; 60; admitted to hospital within the past 6 months; LOS ≥3 days; or admission diagnosis of heart failure or COPD); had a primary care provider within the system; and had an observation stay or inpatient admission on the general medicine service. Majority of benefits were found in the over 60s.</td>
<td>Unlikely to be available to us or to local areas as it requires individual level data on specific characteristics</td>
<td>USA based intervention</td>
<td>No – population data unlikely to be available to us or to local areas and population may not be transferable due to the evidence being international.</td>
</tr>
<tr>
<td>Befriending (Optimity advisors, for NICE, 2015)</td>
<td>Friendship programmes in Netherlands (Onrust et al. 2008). Participants received 10-12 one-to-one visits by widowed volunteers at home, which aimed to provide participants with a chance to express feelings and receive information and practical help. Volunteers delivering the intervention had received 6 training sessions and were supervised by a coordinator who themselves had received training.</td>
<td>For individuals aged 55 and over who had been widowed in the past year and had moderate or strong feelings of loneliness.</td>
<td>Unlikely to be available to us or to local areas as it requires individual level data on specific characteristics.</td>
<td>Dutch intervention</td>
<td>No – population data unlikely to be available to us or to local areas, so there is a risk of areas applying the evidence to other populations, when it is not necessarily transferable.</td>
</tr>
<tr>
<td>Intervention type (author)</td>
<td>Intervention details</td>
<td>Population information</td>
<td>Likelihood of population information being available</td>
<td>UK relevance</td>
<td>Recommendation on whether to include in next stage</td>
</tr>
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</tr>
<tr>
<td>Integration: Inter-professional working (NICE, 2015)</td>
<td>Integrating health and/or social care planning and professional input. Based on the American GRACE model: an in-home comprehensive geriatric assessment from case managers, used to create an individualised care plan discussed with the MDT. (GRACE: Geriatric Resources for Assessment and Care of Elders). An outpatient, multidisciplinary geriatric team (composed of a geriatrician, pharmacist, physical therapist, mental health social worker, community-based services liaison, practice manager and administrative assistant) plus case management (performed jointly by an advanced practice nurse and social worker).</td>
<td>Defined as those with a 40%+ chance of hospital admission, a measure constructed by the authors on the basis of patient age, sex, perceived health, availability of an informal caregiver, heart disease, diabetes, physician visits and hospitalisations. Mean 72 years, 64% female, 57% black, 67% with less than 12 years of education, 75% with low socioeconomic status (defined as having household income less than $10,000 per year).</td>
<td>Unlikely to be available to us or to local areas as the criteria for selecting the population for the intervention requires a ‘tool’ we don’t have access to.</td>
<td>USA based intervention, used to inform NICE guidelines on elements of care and support to older people with social care needs and multiple long-term conditions.</td>
<td>No – population data unlikely to be available to us or to local areas, so there is a risk of areas applying the evidence to other populations, when it is not necessarily transferable.</td>
</tr>
<tr>
<td>Physical activity: Community based schemes (Davis et al, 2010; Davis et al, 2011)</td>
<td>Two intervention groups: once-weekly resistance training, twice-weekly resistance training, compared with twice-weekly balance and tone classes (all 60-min duration). The resistance training program used a progressive, high-intensity protocol. (In Canada). Study in 2011 followed up participants after 21 months.</td>
<td>Community-dwelling women aged 65 to 75 years, living in community. Participants were excluded if they were unable to write and speak English, were partaking in resistance training in the last 6 months, and had a current medical condition for which exercise is contraindicated, had a neurodegenerative disease, and were taking cholinesterase inhibitors, being treated currently for depression or on hormone replacement therapy during the previous 12 months. Mean age 69 years.</td>
<td>Unlikely to be available to us or to local areas as it requires individual level data on specific characteristics.</td>
<td>Canadian intervention</td>
<td>No – population data unlikely to be available to us or to local areas, so there is a risk of areas applying the evidence to other populations, when it is not necessarily transferable.</td>
</tr>
</tbody>
</table>
4.7 Assessment of modelling assumptions

The next stage was to conduct further assessment and critical appraisal of the detail in each study, to understand any assumptions that would be needed for the ROI modelling and also to select the strongest evidence where there was more than study on the same intervention. The summary in Table 4.8 gives brief details of each intervention, the eligible population, plus the assessment of the evidence and population data availability. The availability of cost and outcome data is mentioned only if this was viewed to be inadequate for the ROI modelling.

Table 4.8: Intervention modelling assessments

<table>
<thead>
<tr>
<th>Intervention details</th>
<th>Population information</th>
<th>Data availability</th>
<th>Evidence conclusion</th>
<th>Recommendation to take forward</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bundle of voluntary and community sector (VCS) services aimed at patients with long-term conditions (Dayson et al, 2014)</td>
<td>1,607 patients were identified by GP surgeries using a risk stratification tool and referred to the service during the pilot. 87% were aged 60 or over. The risk stratification identified the top 5% most intensive users of services, who were therefore eligible for case management.</td>
<td>This data is not available nationally. However, In 2013/14, the Primary Care Enhanced Service ‘Risk Profiling and Care Management Scheme’, required CCGs to use a risk profiling tool to identify patients at highest risk of admission to hospital. A number of different tools are available which may be commissioned to support CCGs and practices to identify this group e.g. Artemus. Identifying the patients most suitable for case management has been a common practice prior to the Enhanced Service being introduced.</td>
<td>Wellbeing benefits show statistical significance. Cost savings do not have statistical power. Benefits also quoted for VCS and value of volunteering.</td>
<td>Include Using the study quoted and potentially contact the author for more detail if required.</td>
</tr>
<tr>
<td>Intervention details</td>
<td>Population information</td>
<td>Data availability</td>
<td>Evidence conclusion</td>
<td>Recommendation to take forward</td>
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<tr>
<td>Befriending (Kanpp et al, 2011)</td>
<td>Intervention presumed to be targeted at the lonely, isolated individual over 50.</td>
<td>A number of potential sources of data for this group at local level:</td>
<td>Sound study. Detail on input costs breakdown is lacking so input cost per patient would need to be used as quoted (plus inflation).</td>
<td>Include</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Adult Social Care Survey (socially isolated – national figure by age and by LA (not age)</td>
<td></td>
<td>Using the study quoted and potentially contact the author for more detail if required.</td>
</tr>
<tr>
<td></td>
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<td>- GP Patient survey (‘feeling isolated from others’)</td>
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<td></td>
<td></td>
<td>- POPPI – provides data for people living alone 65+</td>
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<td></td>
<td></td>
<td>- Risk stratification tools with frailty index may have information on social isolation as a domain of eFI.</td>
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<tr>
<td>Community singing (Coulton et al, 2015)</td>
<td>All those expressing an interest and aged 60 or over were eligible. No specific inclusion criteria. 258 patients were eligible and consented to participate in the study. The mean age was 69 years (s.d. 7.14); the majority were female (84%) and white (98%).</td>
<td>Age profiles are available nationally. As the numbers of eligible people will be high, local areas may wish to enter a ‘proportion eligible’ into the tool.</td>
<td>Has statistically significant QALY gains. Evidence for service utilisation not statistically significant.</td>
<td>Include</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Using the study quoted and potentially contact the author for more detail if required.</td>
</tr>
<tr>
<td>Dementia: Early diagnosis (Banerjee et, 2009)</td>
<td>The service is designed to assess all incident cases of dementia in a given population. The modelling is based on the population of 65+ years.</td>
<td>Data on dementia prevalence in 65+ available from POPPI. Also, local areas have access via primary care registered prevalence (diagnoses).</td>
<td>The findings are based on prospective modeling of scenarios, using evidence from other clinical studies.</td>
<td>Maybe include</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td>Would need to make clear that is based on modelled findings and not observed effectiveness data in this study.</td>
</tr>
<tr>
<td>Intervention details</td>
<td>Population information</td>
<td>Data availability</td>
<td>Evidence conclusion</td>
<td>Recommendation to take forward</td>
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<tr>
<td><strong>Dementia: Nursing/care home interventions</strong> <em>(Ballard et al, 2018)</em></td>
<td>People with dementia living in 69 UK nursing homes. 847 individuals were randomised to WHELD or standard care. The majority of participants had moderately severe or severe dementia, and 71% were female. Average age was 86.6 years.</td>
<td>At national level, we have data on prevalence of dementia and proportions living in residential/nursing homes (Alzheimer’s Research UK), so could provide a national estimate. LAs/CCGs may have more accurate information on dementia beds in care homes in their area.</td>
<td>Statistically significant improvement in QoL, plus other statistically significant benefits (e.g. agitation). Reduced cost compared to standard care.</td>
<td>Include Using the study quoted and potentially contact the author for more detail if required.</td>
</tr>
<tr>
<td>Extracare housing - compared with home <em>(Goswell, 2014; Frontier Economics, 2010; Batty, 2017; IPC, 2011)</em></td>
<td>Dorset: Aimed at older people 65+ but also those with care and support needs (could be under 65) Wales: Two-thirds of residents 75+, 63% female, 37% male. Mix of residents with support and/ or care needs. England overall: Mixed vulnerabilities in study, including older people (analysed separately). May be at risk in the community, dependent on others, vulnerable, physically incapacitated.</td>
<td>Adult Social Care survey provides data on level of support needed for daily living. Groups have mixed care needs so unlikely to have national data for the different profiles. Local areas may have more detail to update assumptions.</td>
<td>Studies show highly complex costing requirements, with variability around the country dependent on land purchase and construction costs. Level of detail required is thought to be beyond scope of ROI tool.</td>
<td>Maybe include. Need to look into the applicability of the evidence for current context.</td>
</tr>
<tr>
<td>Intervention details</td>
<td>Population information</td>
<td>Data availability</td>
<td>Evidence conclusion</td>
<td>Recommendation to take forward</td>
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<tr>
<td>Extracare housing - compared with other care home (Baumker, 2011)</td>
<td>Need assistance to cope with some daily or domestic tasks. No age range or mean given. Bradford: Residents aged between 59 and 92, with a mean of 78 years. Mixed care needs.</td>
<td>POPPI has numbers 65+ living in care homes.</td>
<td>As above</td>
<td>Maybe include.</td>
</tr>
<tr>
<td>Extracare retirement villages (19 schemes, mixed housing tenures) located in Midlands and Northern England</td>
<td>For individuals previously admitted to a residential care home. Mean age 77 yrs and 66% female.</td>
<td></td>
<td></td>
<td>Need to look into the applicability of the evidence for current context.</td>
</tr>
<tr>
<td>Hospital discharge support (COPD) (Hoogendoorn et al, 2010)</td>
<td>INTERCOM programme in Netherlands, consisted of exercise training, education, nutritional therapy and smoking cessation counselling offered by community-based physiotherapists and dieticians and hospital-based respiratory nurses. Included a 4-month standardised, supervised, intensive intervention phase, and a less intensive, less-standardised 20-month maintenance phase.</td>
<td>199 patients with COPD and impaired exercise capacity were recruited by respiratory physicians of 2 general hospitals in the Netherlands. Patients did not have prior rehabilitation or serious comorbidity that precluded exercise training. Mean age 66 years. National estimates and LA estimates of total population aged 65 and over predicted to have a longstanding health condition caused by bronchitis and emphysema. Local areas could update with data from QOF registers for COPD.</td>
<td>A QALY gain of 0.08 (Not statistically significant) was reported as well as the percentage of patients who will have an improvement in SGRQ. Both could be incorporated into the model with QALYs monetised for a societal ROI.</td>
<td>Include Make clear it is a Dutch study so would need to value using UK units.</td>
</tr>
<tr>
<td>Intervention details</td>
<td>Population information</td>
<td>Data availability</td>
<td>Evidence conclusion</td>
<td>Recommendation to take forward</td>
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<tr>
<td><strong>Inter-professional working</strong> <em>(Opinder et al, 2017)</em></td>
<td>Frail older people aged 70 years and older admitted to hospital as an acute medical emergency. Recruited from general medical elderly care wards at the Queen’s Medical Centre, with community follow-up.</td>
<td>Hospital Episode Statistics contain admissions by CCG by age. Would need to apply an assumption on prevalence of frailty. Potentially could use the risk profiling data described for Rotherham scheme above.</td>
<td>The study was a pilot and too small for statistical significance. The non-statistically significant differences showed reduction in initial length of stay with community rehab but higher readmission rates.</td>
<td>Maybe include.</td>
</tr>
<tr>
<td><strong>Exercise for depression in care home residents</strong> <em>(Underwood, 2013)</em></td>
<td>Care home residents’ ≥ 65 years. Individual patients excluded were: those with a terminal illness, those who were too ill to be seen at the time of assessment or who had severe communication problems, or those for whom the care home manager felt the study was not suitable for some other reason.</td>
<td>POPPI has data on 65+ in care homes, by LA.</td>
<td>No statistically significant change in QoL from baseline for intervention or control (depression awareness training for staff). Not clear whether exercise would have been more effective than doing nothing.</td>
<td>Don’t include.</td>
</tr>
<tr>
<td>Intervention details</td>
<td>Population information</td>
<td>Data availability</td>
<td>Evidence conclusion</td>
<td>Recommendation to take forward</td>
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<tr>
<td><strong>Volunteer led practical support</strong> <em>(Bauer et al, 2017)</em></td>
<td>Older people aged 55 years and above living in their own homes. Of the 603 participants, 140 were carers for their spouse. 91% of respondents to wellbeing and resource use survey were 75+ years.</td>
<td>Census data available.</td>
<td>Statistically significant reductions in resource use (hospital/care home) and increases in ASCOT scores (non-significant). Lots of detail on costs.</td>
<td>Include.</td>
</tr>
<tr>
<td>Help at home community scheme in Shropshire, England - volunteer-provided face-to-face and telephone befriending scheme; a practical home help service for gardening, shopping and cleaning; and welfare benefit advice service. Whilst personal care was not provided as part of the scheme, people were assessed for and referred elsewhere for this type of support.</td>
<td></td>
<td></td>
<td>Using the study quoted and potentially contact the author for more detail if required.</td>
<td></td>
</tr>
<tr>
<td><strong>Social care led care planning approach</strong> <em>(NICE, 2015)</em></td>
<td>Older people (65 years and above) with conditions such as cognitive impairment, who were using home care and other social care services.</td>
<td>Data available at LA level on service use from Adult Social Care survey. Local areas would need to provide granular data on prevalence of conditions e.g. cognitive impairment.</td>
<td>The care planning aspect of the intervention (as opposed to care package for those meeting social care eligibility criteria) was poorly defined, and the effects not separately ascertained in terms of costs and effectiveness.</td>
<td>Don't include.</td>
</tr>
<tr>
<td>Based on the IBSEN study; social care services provided as part of a care package for people living in their own home and the care planning approach. Care management provided by a professional care manager or coordinator, who was usually employed by the local authority or by home care agencies.</td>
<td></td>
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<td>(Intervention detail lacking, evidence is not strong, and data availability uncertain).</td>
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<tr>
<td>Intervention details</td>
<td>Population information</td>
<td>Data availability</td>
<td>Evidence conclusion</td>
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<tr>
<td><strong>British Red Cross (BRC) Support at Home service (Dixon et al, 2014)</strong>&lt;br&gt;British Red Cross (BRC) Support at Home service: short-term practical and emotional support aimed at developing confidence &amp; independence esp. after difficult times such as hospital stay etc. - contact times of 4-40 hrs (ave 10 hrs).&lt;br&gt;Not age specific but often older people living with disability.&lt;br&gt;4 areas involved: London, Yorkshire, Northern Ireland, Scotland (Wales was omitted)&lt;br&gt;Mean age of participants was 76 years, 75% female, 80% white, 65% lived alone, 75% had long term health conditions, 58% a disability.</td>
<td>PHE comorbidity analysis (2012) applying research findings to demographics of local areas to give estimate of population with disability.&lt;br&gt;Census - health status by age (2011 based).&lt;br&gt;GP Patient Survey gives % patients living with a disability/illness.</td>
<td>Case study evidence used to model scenarios, using many assumptions, based on small numbers.</td>
<td>Don’t include.</td>
<td></td>
</tr>
<tr>
<td><strong>Reablement (Glendinning et al, 2011)</strong>&lt;br&gt;Short-term intervention in home care - helps users to regain confidence and relearn self-care skills and aims to reduce needs for longer-term support.&lt;br&gt;Services provide personal care, help with activities of daily living and other practical tasks for a time-limited period.&lt;br&gt;The provision of items of equipment is also an important feature.&lt;br&gt;Service users from home care reablement services in 5 English local authorities.&lt;br&gt;Over 90% were aged over 65 years; approximately 70% were female.</td>
<td>Data available at LA level on service use from Adult Social Care survey.&lt;br&gt;Local areas may have more accurate information.</td>
<td>Re-ablement was associated with a significant decrease in subsequent social care service use. Also had positive impacts on users’ health-related QOL and social care-related QOL.</td>
<td>Don’t include as a separate intervention, as included in NICE review below.</td>
<td></td>
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<tr>
<td><strong>Reablement (NICE, 2017)</strong>&lt;br&gt;Reablement - a short-term individualised service designed to promote independence and minimise the need for ongoing support services, for those at home (not post-hospital).&lt;br&gt;A hypothetical group of 1,000 home care users was followed starting from when individuals were 65 years to when they died.&lt;br&gt;Two study groups - from England and Australia</td>
<td>Data available at LA level on service use from Adult Social Care survey.&lt;br&gt;Local areas may have more accurate information.</td>
<td>Statistically significant reduction in social care costs, plus reported QALY gains.</td>
<td>Include.&lt;br&gt;Cross reference and ensure consistent with NICE budget impact tool.</td>
<td></td>
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<tr>
<td>Intervention details</td>
<td>Population information</td>
<td>Data availability</td>
<td>Evidence conclusion</td>
<td>Recommendation to take forward</td>
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</tbody>
</table>
| **Self-management of COPD** *(Taylor et al, 2012)*  
Better Living with Long term Airways disease (BELLA) - course run by 2 trained lay (peer) tutors (at least one of whom had COPD), who delivered a structured, manualised, 3-hour session once a week for 7 weeks at a local community centre. Addressed 5 core self-management skills: defining the problem, decision making, finding and using resources, forming partnerships with healthcare providers, and taking action (making a short-term action plan and acting on it). | Patients with moderate to severe COPD identified through primary care disease registers. Inclusion criteria were: aged >35 years, diagnosed COPD with a ratio of forced expiratory volume in 1 second (FEV1) to forced vital capacity (FVC) <0.7, plus either an exacerbation of COPD leading to unscheduled health care within the past year, or post-bronchodilator FEV1<80% predicted (moderate COPD). Mean age 69.5 years. | National estimates and LA estimates of total population aged 65 and over predicted to have a longstanding health condition caused by bronchitis and emphysema.  
Local areas could update with data from QOF registers for COPD. | Small study, indicating non-statistically significant improvements in QOL and probability of being cost effective at £30k per QALY. | Maybe include.  
Could do a targeted search for better evidence on self-management in COPD. |
| **Telecare/assistive technology at home** *(Goodacre, 2008; Clifford et al, 2012)*.  
Assistive technology for patients with different long-term conditions. | Goodacre: Model/profiling created 7 user profiles age 70+ with impairments (e.g. arthritis, COPD, diabetes). Age range 70 – 78 years, with LTCs.  
Clifford: older people (65+) living in own homes, majority of cases had more than one condition or disability. | Patient profiles in Goodacre would be difficult to replicate.  
For Clifford study, PHE comorbidity analysis (2012) applying research findings to demographics of local areas to give estimate of population with disability.  
Census - health status by age (2011 based).  
GP Patient Survey gives % patients living with a disability/illness. | Study is not peer reviewed and based on a non-random sample of 50 people. Concludes savings are possible, based on some assumptions. | Maybe include.  
Could do a targeted search for better evidence on telecare. |
The older adults’ NHS and social care return on investment tool

The next steps following the modelling assessment are shown in Table 4.9. The recommended ‘Includes’ were all supported to take forward to the ROI tool development stage.

Table 4.9: Next steps following modelling assessment

<table>
<thead>
<tr>
<th>Include in the ROI tool</th>
<th>Do further targeted searches / assessment</th>
<th>Don’t include in the ROI tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bundle of voluntary and community sector (VCS) services aimed at patients with long-term conditions</td>
<td>Inter-professional working (CIRACT)</td>
<td>Exercise for depression in care homes</td>
</tr>
<tr>
<td>Befriending</td>
<td>Self-management for COPD</td>
<td>Social care – care planning (IBSEN)</td>
</tr>
<tr>
<td>Community singing</td>
<td>Telecare/assistive technology</td>
<td>British Red Cross help at home</td>
</tr>
<tr>
<td>Dementia: nursing home intervention</td>
<td>Hospital discharge support (INTERCOM)</td>
<td>Dementia early diagnosis</td>
</tr>
<tr>
<td>Volunteer help at home scheme</td>
<td>Extracare housing</td>
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<tr>
<td>Reablement (x2)</td>
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</tbody>
</table>
4.8 Additional targeted literature searching

For those interventions where the assessment of modelling assumptions found a lack of detail and or equivocal results, it was viewed that some additional targeted searching may yield more suitable evidence. As the search terms for the original literature search were broad, it was thought possible specific key words may yield further evidence that had not been found previously.

Additional targeted literature searches were conducted for the following interventions:

- inter-professional working
- self-management for COPD
- telecare/assistive technology
- hospital discharge support

Better economic evidence was found for Inter-professional working, but not for the other 3 interventions.

4.9 Final assessment

Following the additional literature searches it was agreed to include self-management for COPD and the new evidence found on inter-professional working in the tool. The remainder of the interventions in Table 4.9 were removed from the shortlist. Further information on the rationale for their exclusion is given in Table 4.10.

The figure in Section 4.10 summarises the process that has led to the selection of the interventions included in the tool, and the number of interventions removed at each stage.
Table 4.10: Interventions excluded from final short list

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Rationale for exclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extracare housing</td>
<td>Extracare can be described as self-contained accessible housing accommodation, with flexible access to 24-hour care and an emphasis on supporting and maintaining independence. From a policy perspective, extracare housing and sheltered housing is of interest to local authorities as an intervention option when they make local plans (e.g. JSNAs/housing strategies). The review initially found 10 records on extracare housing, comparing it to both residential care and to ‘own home’. The Steering Group had expressed interest in including this intervention, albeit with cognisance that the required investment (and hence affordability) was on a larger scale than most of the other interventions being considered. Following full data extraction, the 4 studies with the greatest potential were reviewed in detail for their suitability (Goswell, 2014; Frontier Economics, 2010; Batty, 2017; IPC, 2011). Following detailed assessment, the inclusion of extracare in the ROI tool appeared to present some challenges. For example, the complexity of the inputs, which would require users of the tool to do significant work to derive locally specific model inputs, or use sample costs which may not be representative of their local area e.g. land prices, labour costs etc. This could potentially have been overcome by use of a disclaimer such as ‘based on average house prices in the area’. A more significant concern was the fact that the most useable study was based on a cohort from 1995 and 2005, with the latter cohort observing insignificant changes. Expert opinion was therefore sought from academic advisors to the Social Care ROI project. In summary, extracare housing is an enormously varied term, and the level of care available, in addition to other linked facilities, is quite different from scheme to scheme. The evidence-base also goes out of date quite quickly because thresholds for moving into care homes (the nearest alternative) have massively shifted over the last decade or two. Some have found that extracare housing isn’t the substitute for care homes that people first thought it would be. For people who have a high risk of falling, or of ‘wandering’, or can need help at night-time, extracare housing is not often considered a safe alternative - and this accounts - today (but not 20 years ago) - of a huge proportion of care home admissions. For the more modest number for whom it is suitable, there then comes a question of prognosis (e.g. in dementia) - is it worth moving someone into extracare housing, if they will need to move again in 9 months’ time? In conclusion, whilst these studies seem to be the most advanced available in the area, there remain important questions as to whether extracare offers a cost-effective alternative to residential care homes or care in the home. The data on which they are based is dated, the methods are limited and the associated costs in today’s world might well look different. In light of this compelling advice, it was agreed with the PHE project team that extracare housing would not be included in the ROI tool.</td>
</tr>
<tr>
<td>Telecare</td>
<td>Telecare is briefly described as assistive technology, alarms and 24 hour access to remote telephone assistance in the home to enable elderly and physically less able people to remain living in their own homes. The literature review found mixed evidence (including the Whole Systems Demonstrator studies), and telecare was shortlisted for consideration for</td>
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</table>
### The older adults' NHS and social care return on investment tool

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Rationale for exclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exercise for depression in care homes</td>
<td>A ‘whole-home’ exercise intervention, consisting of training for care home staff backed up with a twice-weekly, physiotherapist-led exercise group, compared to a depression awareness training programme for care home staff. (Underwood, 2013). The large OPERA trial found no evidence that exercise is effective for depression in care homes with no difference in quality of life or costs compared to depression awareness training for care home staff. It was unclear whether exercise would have been more effective that doing nothing. As the intervention had poor evidence of effectiveness it was recommended that this it was not included in the ROI tool.</td>
</tr>
<tr>
<td>Social care – care planning (IBSEN)</td>
<td>There were 2 aspects of service delivery- social care services provided as part of a care package for people living in their own home and the care planning approach (NICE, 2015). The NICE model used data from the Personal Budgets evaluation (the IBSEN study) with an intervention that was a combination of a care package and care planning. As care packages funded through personal budgets should be provided by local authorities if people meet eligibility criteria, this is not useful to include in a decision making tool. The effect of ‘care planning’ – which as an intervention was poorly described in the above economics report – was not separately ascertained in terms of costs and effectiveness. No separate information on social care costs from health care costs were provided. Findings on social care outcomes were based on the receipt or not of home care and not of a care planning approach. As the intervention is poorly defined, the costs for social care and the benefits of care planning cannot be isolated and the evidence is based upon the Personal Budgets evaluation, it was recommended that this intervention was not included in the ROI tool.</td>
</tr>
<tr>
<td>Intervention</td>
<td>Rationale for exclusion</td>
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<tr>
<td>British Red Cross help at home</td>
<td>British Red Cross (BRC) Support at Home service: short-term practical and emotional support aimed at developing confidence and independence especially after difficult times such as hospital stay provided by a mix of paid staff and volunteers. (Dixon et al, 2014). The study was not a robust evaluation and was based upon before and after responses from 50 people experiencing 4 different variations of the Support at Home model. The assumptions that were used to arrive at potential cost savings would have to be replicated with the user of the tool having to verify whether they agreed with these assumptions. Given the lack of evidence available on actual effect, the tool could only produce either a threshold analysis or a hypothetical ROI. It was recommended that this intervention was not included in the ROI tool.</td>
</tr>
<tr>
<td>Dementia - early diagnosis</td>
<td>The Croydon Memory Service Model provided early diagnosis of dementia as well as information and direct medical, psychological and social help to patients and their families (Banerjee et, 2009). Further consideration of the paper concluded that the findings are based on prospective modelling of scenarios, using evidence from other clinical studies. The effectiveness of the intervention was assumed, and linked to a reduction in admissions and lengths of stay in care homes, savings of which are offset by costs of care if people remain in their own homes. There was no actual effectiveness data in the model and only scenarios were run, so the tool could only produce either a threshold analysis or a hypothetical ROI. It was recommended that this intervention was not included in the ROI tool.</td>
</tr>
<tr>
<td>Reablement</td>
<td>The NICE report (2017) reviewed a short-term individualised service designed to promote independence and minimise the need for ongoing support services, for those at home (not post-hospital), modelling a hypothetical group of patients based on study groups from England and Australia. This record was removed in favour of the specific reablement intervention reported in Glendinning et al, 2011).</td>
</tr>
</tbody>
</table>
4.10 Positivity bias

At the title/abstract screening stage, all records including cost effectiveness/cost impact were selected for further review, regardless of whether the results were positive, negative or neutral. At the full text review stage, papers with no evidence of positive impact were excluded. It is acknowledged that there is an inherent risk of introducing positivity bias to the review at this point. Therefore, when selecting the reason for exclusion, if the results were negative or neutral, the reason ‘No evidence of impact’ was selected over and above other potential exclusions reasons, e.g. insufficient cost information. This enabled the records to be reviewed for any themes in the interventions with negative as well as positive results.

The list includes 19 types of intervention. Two of these had more than one paper concluding neutral or negative findings. These areas were:

- telehealth/telemonitoring (4 records: COPD, chronic conditions, long term conditions, COPD)
- integrated care (5 records)

During this preliminary data extraction we have attempted to draw some conclusions on those interventions with the greatest extent of evidence for impact and cost effectiveness, in order to inform the discussion at a stakeholder workshop in November 2018.
5. Development of the economic tool

5.1 Developing the tool

The ROI tool was developed in Microsoft Excel to be interactive and user friendly. Stakeholder opinion and engagement helped inform the development of the tool. The initial design was shared with the project Steering Group who commented on the adopted methodology, structure, perspective, population, calculations and results. The Steering Group also provided feedback on 2 prototype versions, with particular regard to the tool's functionality and how it would be used in practice.

The final version of the tool was submitted for Quality Assurance checks conducted by an independent research consultant. The QA procedure involved checking the key calculations and pressure testing the tool by applying extreme values to several input parameters and confirming results changed in the expected direction. For example, a pressure test which reduced intervention costs to zero would be expected to increase the return on investment predicted by the model for each intervention.

5.2 Estimating the target population

A primary purpose of the tool is to enable local commissioners to conduct return on investment analyses of social care interventions for older adults in pre-specified geographical areas. To facilitate return on investment analyses, the tool is prepopulated with data from different levels of geographical area, including nationally for England and for individual local authorities (LAs), NHS clinical commissioning groups (CCGs), and NHS Sustainability and Transformation Partnerships (STPs). In addition, the tool allows local commissioners to define older people as either being aged 65 years and over or 80 years and over. Therefore the model is informed through data sources which identify the size of the 65+ and 80+ population in each geographical area. Population data was obtained from the most recent online sources published by the Office for National Statistics, this being June 2019 for England and the LAs (1) and October 2018 for CCG and STP areas (2).

The model’s in-built populations are refined by identifying the percentage who are eligible to receive each intervention. Eligibility criteria represents the population who received the intervention in the underlying studies and therefore differs for each intervention. Where possible eligible populations were identified using data specific to national, LA, CCG and STP areas. If data was not available to estimate eligibility in local populations then national or regional data was assumed to be appropriate. This can be overwritten by the tool user.
The model further refines eligibility by age group as some interventions are likely to be available to a higher proportion of people in the 80+ age group when compared with the 65+ age group. Where possible, eligibility by age group was obtained directly from the local data sources. For several interventions, eligibility couldn’t be established using local data as the data sources only reported relevant statistics for the local population as a whole (i.e. for 0+ age groups rather than specifically for 65+ or 80+ age groups). In such cases, national data was used to estimate the eligible % in the population as a whole (i.e. the 0+ age group) and for the age groups included in the model (i.e. the 65+ & 80+ age groups). Relative risks for the eligibility parameter were then established for the 65+ and 80+ populations vs. 0+ population in the national data set. Relative risks obtained from the national data sources could then be applied to the local data to estimate the % eligible for the intervention in LA, CCG and STP areas for the 65+ and 80+ populations.

Finally, the tool allows target populations to be adjusted to represent the expected uptake of the intervention in the eligible population. No in-built modelling assumptions regarding uptake are applied within the tool, which are instead defined entirely through user input.

The following section of the technical report summarises the underlying study populations and the assumptions, methods and data sources used to estimate eligible populations for each intervention included in the ROI model.

5.2.1 Community singing

The community singing intervention was described as being available to everybody who expressed an interest and was aged 60 or over. Consequently, no further refinements were required regarding eligibility criteria as it was assumed that 100% of individuals were eligible for the intervention across all national, LA, CCG & STP areas and for both the 65+ and 80+ age groups.

5.2.2 Help at home scheme

The help at home intervention was described as being available to people aged 55 or over who required help with day to day activities in their own homes. When establishing the eligible population within the ROI tool, it was assumed people would need help with day to day activities if they were unable to perform at least one instrumental activity of daily living (IADL) or activity of daily living (ADL). Both IADL and ADL are commonly used to assess disability in older people. Examples of: IADLs include meal preparation, housekeeping & transportation; and ADLs include walking, bathing, and using the toilet.
The eligible population was estimated within the ROI tool using data obtained from a study by Wittenberg et al. (2018) (3). The study estimates the % of people in the UK population with at least one ADL or IADL. No data was identified which estimated the % of people with IADL or ADL by LA, CCG or STP, therefore national rates were assumed for all local populations. The data from Wittenberg et al. (2018) did not estimate IADL/ADL disability by age group.

However, Health Survey for England (4) data reports the number with an ADL (but not IADL) by age group and was used to establish the relative risk of disability in 65+ and 80+ age groups vs. the population as a whole (0+). The relative risks from the Health Survey for England data (4) were multiplied by the estimates from Wittenberg et al. (2018) (3) to establish the % of the population with at least one IADL or ADL for 65+ and 80+ age groups.

5.2.3 Befriending

The befriending intervention was described as being available to people aged 50 or over who are lonely or isolated. When establishing the eligible population within the ROI tool, it was assumed isolated or lonely people could be appropriately identified if they responded positively to question 32 in the GP Patient Survey (5) which asked patients whether they had experienced feeling isolated or lonely from others in the previous 12 months. Rates of isolation/loneliness were obtained from the GP patient survey (5) for CCG and STP areas. Data was not available specific to local authorities, which were instead grouped by region (regions included London, Midlands & East of England, North East, North West, South East, South West, and Yorkshire & the Humber). Age group data from the GP Patient Survey (5) was only available for England. Therefore national data was used to estimate the relative risk of loneliness/social isolation in 65+ and 80+ age groups vs the whole population (0+). The relative risks were then applied to estimate the % of people who are lonely/socially isolated in local areas (regional/CCG and STP) for the 65+ and 80+ age groups.

5.2.4 WHELD intervention for people living with dementia in nursing homes

The WHELD intervention was described as being available to people with dementia who are currently living in nursing homes. The inbuilt populations in the ROI tool uses data published by the Alzheimer’s Society (6) to directly estimate the prevalence of dementia in England and in each CCG and STP area. Prevalence for dementia in LA areas was not reported and therefore assumed to be equal to those identified for England. The Alzheimer’s Society (6) also reports all national, CCG, and STP dementia statistics by age which allowed prevalence rates for 65+ and 80+ age groups to be obtained directly. In addition a separate Alzheimer’s Society report (7) identified the proportion of people with dementia who live in nursing homes in England, however this statistic was not available specific to geographical location or age group. The proportion in nursing homes was multiplied by all previously identified dementia
prevalence rates for national and local areas to estimate the number of people eligible for the WHELD intervention.

5.2.5 INTERCOM intervention providing hospital discharge support for COPD patients

The INTERCOM intervention was described as being available to people with moderate-severe COPD (stage 2 or 3) with impaired exercise capacity. The inbuilt populations in the ROI tool used prevalence data from the Quality and Outcomes Framework (QoF) for all cases of COPD for CCG and STP areas (8). Data was not available specific to local authorities so a separate QoF data source (9) was used to group LAs by region (regions included London, Midlands & East of England, North East, North West, South East, South West, and Yorkshire & the Humber).

It was assumed that moderate to severe cases of COPD included all those with scores greater than or equal to 3 on the dyspnoea scale, as this indicates moderately to severe symptoms of breathlessness that may prevent exercise capacity (9). The QoF data (9) was used to establish the proportion of COPD patients in England with dyspnoea scores >=3. The national proportion was multiplied by local prevalence rates to establish the % with moderate-severe COPD in each geographical area.

Finally, QoF data sources did not establish prevalence rates for COPD by age. Therefore, prevalence rates of COPD by age group were identified for England using data from the British Lung Foundation (10). The national data was used to estimate the relative risk of COPD in 65+ and 80+ age groups vs the whole population (0+). The relative risks were then applied to the QoF data to estimate the % of people with moderate-severe COPD in local areas (regional/CCG and STP) for the 65+ and 80+ age groups.

5.2.6 Bundle of Voluntary and Community Sector (VCS) Services aimed at Patients with Long-Term Conditions

The underlying study for this intervention established eligibility using a risk stratification tool to identify 5% of the most intensive health and social care service users in the population. Consequently, the ROI tool defined eligibility for the intervention as 5% of the total population size. The 5% eligibility criteria was applied for national, LA, CCG, and STP areas and for both the 65+ and 80+ age groups. Should it be adopted by local commissioners then similar risk stratification tools (as used by Dayson et al. (2014) (11) in the underlying study) might be used to establish eligibility for the intervention in the local area.
5.2.7 Health coaching: Inter-professional working

The health coaching intervention was described as being available to people aged 65 or over who have 2 or more long existing long-term health conditions. The inbuilt populations in the ROI tool used data from Kingston et al. (2018) (12) to estimate the % of people with multiple morbidities (more than one health condition) in the UK. The data from Kingston et al. (2018) (12) reports multi-morbidity by age and therefore data was obtained directly for 65+ and 80+ age groups. No data was identified regarding multi-morbidity by local area and therefore national prevalence rates for the UK were assumed for England and for each LA, CCG and STP area.

5.2.8 BELLA for self-management of COPD

The BELLA intervention was described as being available to people with moderate to severe COPD, with the study population having an average age of 69. This population description matched the population who received the INTERCOM intervention. Therefore, equivalent methods were used to establish the eligible population for the BELLA intervention as were applied when identifying eligibility for the INTERCOM intervention.

5.2.9 Homecare reablement

The Homecare Reablement intervention was described as being available to older people struggling to cope with day to day activities without relying on social care services. When establishing the eligible population within the ROI tool, it was assumed people would need help with day to day activities if they were unable to perform at least one instrumental activity of daily living (IADL) or activity of daily living (ADL). These assumptions matched those that were applied to establish eligibility for the help at home scheme. Therefore, equivalent methods were used to establish eligible populations for homecare reablement as were applied when identifying eligibility for the help at home scheme.

5.3 Model inputs

5.3.1 Intervention costs

The model’s inputs were obtained directly from the published studies identified from the literature review. Model inputs include intervention costs which are, where possible, split into the number of resource units (e.g. the number of staff required to administer the intervention) and unit costs (e.g. the hourly cost per staff member). The level of detail for intervention costs within the model is dependent on the availability of information provided by the studies underpinning each analysis. For instance the reablement intervention, BELLA for self-management of COPD, and befriending intervention only report the aggregated cost of the
The older adults’ NHS and social care return on investment tool

intervention rather than reporting individual resource units that make up the intervention. Table 5.1 summarises the availability of evidence from the included studies.

All intervention costs were uprated to 2018/19 prices using the Hospital & Community Health Services Pay & Prices Index (13).

**Table 5.1: Level of detail across for intervention costs**

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Reporting detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Singing</td>
<td>Disaggregated: 15 individual resource items, resource usage and cost per unit.</td>
</tr>
<tr>
<td>Help-at-home scheme</td>
<td>Semi-disaggregated: 2 resource items reported including number of units and cost per unit.</td>
</tr>
<tr>
<td>Befriending</td>
<td>Aggregated: Only reports overall intervention costs.</td>
</tr>
<tr>
<td>WHELD (dementia nursing homes)</td>
<td>Aggregated: Only reports overall intervention costs.</td>
</tr>
<tr>
<td>INTERCOM (hospital discharge)</td>
<td>Semi-disaggregated: 4 individual resource items reported as cost per overall item (i.e. no unit number or cost per unit).</td>
</tr>
<tr>
<td>Bundle of voluntary and community sector (VCS) services aimed at patients with long-term conditions</td>
<td>Semi-disaggregated: 3 individual resource items reported as cost per overall item (i.e. no unit number or cost per unit).</td>
</tr>
<tr>
<td>Health coaching</td>
<td>Semi-disaggregated: 8 individual resource items reported as cost per overall item (i.e. no unit number or cost per unit).</td>
</tr>
<tr>
<td>BELLA (self-management of COPD)</td>
<td>Aggregated: Only reports overall intervention costs.</td>
</tr>
<tr>
<td>Homecare reablement</td>
<td>Aggregated: Only reports overall intervention costs.</td>
</tr>
</tbody>
</table>

5.3.2 Costs/savings to the NHS and social care budgets

The model inputs also include the costs and savings incurred by the NHS and social care budgets as a direct consequence of the intervention, when compared with a comparator. The majority of interventions were compared with the usual care offered by the country/region of the study population. This excluded the help-at-home scheme, where outcomes were compared with people who had just started using the scheme, and bundle of voluntary and community sector (VCS) services aimed at patients with long-term conditions, which didn’t contain a control group as it was a before and after study. Care should be taken when generalising study outcomes to local populations if there are known differences in the type of usual care offered by local practices and the country/region of the study population.

As with intervention costs, the level of detail reported in the model was dependent on the information available from the included studies. For example, the WHELD intervention for people with dementia living in nursing homes included NHS costs/savings split by individual resource item (e.g. hospital admission, A&E visit, primary care etc.) as well as social care costs/savings, whereas the health coaching intervention only reported aggregated NHS costs and didn’t report any social care costs/savings. In addition there was variation regarding whether the included studies reported the statistical significance of any observed outcome or not (Table 5.2). All costs/savings were uprated to 2018/19 prices using the Hospital & Community Health Services Pay & Prices Index (13).
### Table 5.2: Level of reporting detail across NHS and social care outcomes

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Reporting detail</th>
<th>NHS Outcomes</th>
<th>Social Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Singing</td>
<td>Disaggregated into primary and secondary care, statistical significance reported.</td>
<td></td>
<td>Aggregated outcomes only, statistical significance reported.</td>
</tr>
<tr>
<td>Help-at-home scheme</td>
<td>Aggregated outcomes only, statistical significance not reported.</td>
<td>Aggregated outcomes only, statistical significance not reported.</td>
<td></td>
</tr>
<tr>
<td>Befriending</td>
<td>Aggregated outcomes only, statistical significance not reported.</td>
<td>None reported.</td>
<td></td>
</tr>
<tr>
<td>WHELD (dementia nursing homes)</td>
<td>Disaggregated into hospital admissions, primary care, community care, and A&amp;E costs. Statistical significance reported.</td>
<td>Single item (care home accommodation costs). Statistical significance reported.</td>
<td></td>
</tr>
<tr>
<td>INTERCOM (hospital discharge)</td>
<td>Disaggregated into GP/specialist visits, hospital admissions, medication, and oxygen use. Statistical significance reported for individual items but not for aggregated NHS costs.</td>
<td>None reported.</td>
<td></td>
</tr>
<tr>
<td>Bundle of voluntary and community sector (VCS) services aimed at patients with long-term conditions</td>
<td>Disaggregated into hospital admissions, A&amp;E visits, and outpatient appointments. Statistical significance not reported.</td>
<td>None reported.</td>
<td></td>
</tr>
<tr>
<td>Health coaching</td>
<td>Aggregated outcomes only, statistical significance not reported.</td>
<td>None reported.</td>
<td></td>
</tr>
<tr>
<td>BELLA (self-management of COPD)</td>
<td>Aggregated outcomes only, statistical significance not reported.</td>
<td>None reported.</td>
<td></td>
</tr>
<tr>
<td>Homecare reablement</td>
<td>Aggregated outcomes only, statistical significance not reported.</td>
<td>Aggregated outcomes only, statistical significance not reported.</td>
<td></td>
</tr>
</tbody>
</table>

### 5.3.3 Health outcomes

The final model input included the estimated health impact of each intervention. The primary health outcome included in the model was the quality adjusted life year (QALY), a measure of health which combines both quality (morbidity) and quantity (length) of life. More specifically, QALYs are derived by estimating a person's health related quality of life (HRQoL) by assigning utility values to different health states, where full health is valued with a utility equal to 1, and death valued with utility equal to 0. QALYs are aggregated by obtaining the subject's HRQoL at different time points and summing these over a person's projected lifetime (or other time period e.g. matching the time horizon of the analysis).
Five of the underlying studies reported QALYs which were derived using a validated methodology i.e. by applying EQ-5D questionnaire. However, the remaining 4 studies estimated QALYs where various assumptions were applied to estimate each participant’s HRQoL. Table 5.3 summarises the method used to derive QALYs for each of the included interventions.

**Table 5.3: Method/Assumptions used to derive QALYs**

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Singing</td>
<td>Derived from individual responses to EQ-5D questionnaire.</td>
</tr>
<tr>
<td>Help-at-home scheme</td>
<td>Assigned individuals as being physically “well” or “unwell”. Assigned HRQoL for well (0.73) and unwell (0.50) responses based on a published literature source.</td>
</tr>
<tr>
<td>Befriending</td>
<td>The original method to derive QALYs is not reported. However the study reports QALYs as monetary health benefit. QALYs were estimated for the tool by dividing reported monetary health benefit by a value per QALY. The authors did not report the value per QALY applied in the analysis so this was assumed to equal £30,000.</td>
</tr>
<tr>
<td>WHELD (dementia nursing homes)</td>
<td>HRQoL was measured on the DEMQOL-Proxy – a 31-item interviewer-administered questionnaire answered by caregivers to assess the quality of life for people with dementia. The ROI model obtained final QALY values from an accompanying study (14) which applies preference-based utility weights to health states in the DEMQOL-Proxy questionnaire.</td>
</tr>
<tr>
<td>INTERCOM (hospital discharge)</td>
<td>Derived from individual responses to EQ-5D questionnaire.</td>
</tr>
<tr>
<td>Bundle of voluntary and community sector (VCS) services aimed at patients with long-term conditions</td>
<td>Derived from score on a well-being tool developed specifically for the pilot study. The well-being measure contained 8 categories (feeling positive, lifestyle, looking after yourself, managing symptoms, work, money, where you live, and family &amp; friends) scored from 1-5. The study assumed a maximum QALY difference equal to 0.352 between overall minimum and maximum scores (0 &amp; 40), which was assumed to be equivalent to the disutility associated with a level-3 mental health condition. Each category and category score was assumed to contribute equally to overall utility i.e. a 1 point move in any score = 0.352/8 (number of categories) and 5 (number of responses) [i.e. 0.352/40].</td>
</tr>
<tr>
<td>Health coaching</td>
<td>Derived from individual responses to EQ-5D questionnaire.</td>
</tr>
<tr>
<td>BELLA (self-management of COPD)</td>
<td>Derived from individual responses to EQ-5D questionnaire.</td>
</tr>
<tr>
<td>Homecare reablement</td>
<td>Derived from individual responses to EQ-5D questionnaire.</td>
</tr>
</tbody>
</table>

Each intervention’s impact on QALYs was converted to a monetary value which allowed them to be included in the return on investment calculations. The Department of Health suggests that each QALY has a monetised value of £60,000 (15) and this value was adopted within the model. The value of £60,000 per QALYs is higher than the cost-effectiveness threshold typically applied by the National Institute of Health and care Excellence (NICE), (£20,000 to £30,000) but is relevant as a valuation of health benefit for the public health interventions considered in this tool.
In addition to QALYs, the tool also reports the health impact of each intervention on any clinical/secondary outcomes if these were reported in the underlying studies. Whilst the clinical/secondary outcomes reported by the studies don’t factor into any of the ROI calculations, they were reported separately in the model to provide explanation for the reasons behind QALY gains, which did factor into the ROI calculations. The additional outcomes included in the ROI tool for each intervention are reported in Table 5.4.

Table 5.4: Clinical/secondary health outcomes included in the ROI tool.

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Clinical/Secondary Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Singing</td>
<td>• The York SF-12: A measure containing 12 items related to mental health-related quality of life.</td>
</tr>
<tr>
<td>Help-at-home scheme</td>
<td>• Social care QALYs derived from the Adult Social Care Outcomes Toolkit (ASCOT).</td>
</tr>
<tr>
<td>Befriending</td>
<td>• No clinical/secondary outcome reported.</td>
</tr>
</tbody>
</table>
| WHELD (dementia nursing homes)           | • The DEMQOL-Proxy a 31-item interviewer-administered questionnaire answered by a caregiver to assess the quality of life for people with dementia.  
  • The Cohen-Mansfield Agitation Inventory (CMAI) which measures symptoms of agitation in dementia patients.                                                                                                                                                                                                                                                                                                                                                       |
| INTERCOM (hospital discharge)            | • The St George's Respiratory Questionnaire (SGRQ) which assesses symptoms of breathlessness.  
  • The total number of COPD exacerbations which resulted in contact with health services (including primary and secondary care).                                                                                                                                                                                                                                                                                                                                                                           |
| Bundle of voluntary and community sector (VCS) services aimed at patients with long-term conditions | • No clinical/secondary outcome reported.                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Health coaching                           | • The Patient Activation Measure, a questionnaire which assesses patient knowledge, skills and self confidence in management of long term health conditions.  
  • The World Health Organisation Quality of Life-BREF which is a 26-item measure of global quality of life and includes 4 domains for physical health, psychological health, social relationships, and the environment.                                                                                                                                                                                                                                                                                     |
| BELLA (self-management of COPD)           | • The St George's Respiratory Questionnaire (SGRQ) which assesses symptoms of breathlessness.  
  • Questionnaire response to total number of minutes spent exercising per week.                                                                                                                                                                                                                                                                                                                                                                         |
| Homecare reablement                      | • Social care QALYs derived from the Adult Social Care Outcomes Toolkit (ASCOT).                                                                                                                                                                                                                                                                                                                                                                                                                                   |
Two of the interventions (help at home and reablement) reported changes in social care related QALYs derived from the ASCOT (Adult Social Care Outcomes Toolkit) measure. These are reported as secondary outcomes and not included in the ROI analysis as social care related QALYs are not necessarily equivalent to health related QALYs. That is, the ASCOT measures contain health states related to health and social care whereas questionnaires such as the EQ-5D predominantly measure physical and mental health. Consequently the 2 measures may not produce comparable utility values for the same individual as there is some inconsistency in the included states. In addition, it was not considered appropriate to add benefits across social care related QALYs and health related QALYs due to a risk of double counting which would occur if any common health states are shared between the 2 measures.

5.4 Time periods and discounting

The model makes predictions of costs and benefits over a time period corresponding with the time horizon reported in each study. Where results are reported beyond one year, all outcomes are usually discounted, with recommended discounts rates commonly equal to 3.5% for costs and 1.5% for benefits (QALYs). Discounting was not applicable for the majority of the interventions where study time horizons were less than or equal to 12 months. Outcomes of the health coaching intervention were reported over a 20 month time horizon. However discounting had already been conducted by the study authors at an appropriate discount rate (3.5%).

The bundle of voluntary and community sector (VCS) services aimed at patients with long-term conditions intervention (24 months) and INTERCOM for COPD hospital discharge support (24 months) interventions had time horizons with outcomes occurring after 12 months. Outcomes for these interventions were not discounted by the study authors. Therefore discounting was applied in the model at the suggested rates (3.5% costs and 1.5% health) by assuming that the outcomes occurred equally over the study time horizon. For example, if the total reported NHS savings were equal to £200 over a 24 month study time horizon, then it was assumed that £100 of savings occurred in year 1, and £100 occurred in year 2. The appropriate discount rate was then applied to all outcomes occurring after 12 months i.e. a discount rate of 0% applied to £100 of year 1 costs and a discount rate of 3.5% applied to £100 of year 2 costs.
5.5 Model Calculations and Outputs

5.5.1 Return on investment calculations

The key result of the model is the return on investment (ROI) associated with each intervention which is calculated using the equation below:

\[
ROI = \frac{\sum\text{Total discounted benefits}}{\sum\text{Total discounted costs}}
\]

The ROI equation technically estimates a cost benefit ratio, indicating the return on investment for every £1 spent on an intervention. A positive return on investment is indicated by a value above £1, whereas values lower than £1 indicate a net loss. The equation is consistent with methods applied for other ROI tools published by PHE, but differs from some other approaches used to calculate ROI, where typically total net benefits minus total costs are then divided by total costs.

5.5.2 Estimating the overall population impact of interventions

The overall financial costs/savings (including intervention, NHS and social care costs/savings) and the health impact of the intervention in the population of interest are reported as results within the tool. Overall population impacts are estimated by multiplying per person intervention costs, NHS costs, social care costs and QALYs by the size of the population expected to receive and uptake the intervention. Estimates of the overall population impact of the intervention were considered important as each intervention has a different eligible population. For example, an intervention could have a positive and large ROI (per person) but may have a relatively modest impact on a commissioner’s budget if the intervention is only available to a small portion of the population.

5.6 Sensitivity analysis

Deterministic sensitivity analysis is used in economic models to examine the uncertainty associated with model input parameters. Due to the heterogeneous methods of reporting in the studies used to underpin the model, the only consistent input values across all interventions are the composite inputs used to estimate ROI (i.e. total intervention costs, NHS costs/savings, social care costs/savings and QALYs). Therefore, sensitivity analysis was performed by varying the value of each composite input parameter.

The results of the sensitivity analysis are displayed in terms of the societal ROI, which estimates the return on investment when including healthcare costs, social care costs and QALYs (valued at £60,000 per QALY). The tool illustrates the results on graphs which present
the results for the parameter values used in the base case analysis (i.e. values obtained from the published studies).

The sensitivity analyses also establish a threshold value for each parameter where the societal ROI would equal £1 (i.e. where £1 spent results in £1 saved and therefore no positive return on investment).

The sensitivity analysis graphs can be used to highlight the parameters that have the greatest impact on the results. For example, if small changes in the value of a parameter causes the societal return on investment to become equal to £1, then this indicates that parameter is an important driver of results. This means that small amounts of uncertainty regarding this parameter could influence whether the intervention provides a positive ROI or not.

Alternatively, if the threshold values are much larger than the base case parameters then this indicates that the parameter is not an important driver of the analysis outputs. This means that small amounts of uncertainty regarding this parameter are unlikely to influence whether the intervention provides a positive ROI or not.

5.7 Using the tool in practice

A full user guide is built into the tool. The guide describes the different steps required to generate results and walks users through an example intervention where the model is used to calculate the ROI for community singing for people aged 65+, in the York Local Authority area.

In addition to the in-built analyses, the tool can be updated to assess the ROI for a user defined intervention. The additional ROI analysis requires users to enter information on a selected intervention of their choice by including information on intervention costs and the impact of the user defined intervention on NHS costs, social care costs and QALYs. Once all model inputs are updated, the tool automatically calculates the ROI and overall impact of the user defined intervention for the selected population.
6. References


### Studies for interventions included in the tool

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Citation</th>
</tr>
</thead>
</table>
7. Appendices

7.1 Appendix A: Literature search strategies

7.1.1 APPENDIX AA: Search strategies for studies reporting ASCOT or ICECAP-O outcome measures

A.1: Source: Ovid MEDLINE(R) and Epub Ahead of Print, In-Process & Other Non-Indexed Citations and Daily
Interface / URL: Ovid
Database coverage dates: 1946 to 22 August 2018
Search date: 23/08/18
 Retrieved records: 173
Search strategy:

1. ascot.ti,ab,kf. (334)
2. (adult social care outcome$ tool-kit$ or adult social care outcome$ toolkit$).ti,ab,kf. (26)
3. 1 or 2 (339)
4. (severity characterisation of trauma or severity characterization of trauma).ti,ab,kf. (30)
5. (trauma$ adj3 (score$ or scoring or survival or outcome$)).ti,ab,kf. (8108)
6. (triss or injury severity score or glasgow coma scale).ti,ab,kf. (14786)
7. (hypertension or hypertensive$ or antihypertensive$ or blood pressure$ or coronary or cardiovascular).ti. (529185)
8. (AngloScandinavian Cardiac Outcome$ Trial or Anglo-Scandinavian Cardiac Outcome$ Trial).ti,ab,kf. (147)
9. or/4-8 (549590)
10. 3 not 9 (113)
11. (icecap or icepop or icecapo or icecapa).ti,ab,kf. (95)
12. 10 or 11 (199)
13. exp animals/ not humans/ (4490072)
14. (news or comment or editorial or letter or case reports).pt. or case report.ti. (3575020)
15. 12 not (13 or 14) (173)
16. remove duplicates from 15 (173)

A.2: Source: Embase <1974 to 2018 August 22>
Interface / URL: Ovid
Database coverage dates: 1974 to 22 August 2018
Search date: 23/08/18
 Retrieved records: 196
Search strategy:

1. ascot.ti,ab,kw. (507)
2. (adult social care outcome$ tool-kit$ or adult social care outcome$ toolkit$).ti,ab,kw. (28)
3. 1 or 2 (511)
4. (severity characterisation of trauma or severity characterization of trauma).ti,ab,kw. (37)
5. (trauma$ adj3 (score$ or scoring or survival or outcome$)).ti,ab,kw. (10445)
A.3: Source: Cochrane Central Register of Controlled Trials (CENTRAL)
Interface / URL: Cochrane Library, Wiley
Database coverage dates: Issue 7 of 12, July 2018
Search date: 23/08/18
Retrieved records: 50
Search strategy:

#1 ascot 130
#2 adult next social next care next outcome* next tool next kit* or adult next social next care next outcome* next toolkit* 3
#3 #1 or #2 131
#4 "severity characterisation of trauma" or "severity characterization of trauma" 0
#5 trauma* NEAR/3 (score* or scoring or survival or outcome*) 1253
#6 triss or "injury severity score" or "glasgow coma scale" 2019
#7 (hypertension or hypertensive* or antihypertensive* or blood next pressure* or coronary or cardiovascular).ti 62825
#8 AngloScandinavian next Cardiac next Outcome* Trial or Anglo next Scandinavian next Cardiac next Outcome* next Trial 87
#9 #4 or #5 or #6 or #7 or #8 65817
#10 #3 not #9 30
#11 icecap or icepop or icecapo or icecapa 28
#12 #10 or #11 57
#13 #12 in Trials 50

A.4: Source: Social Policy & Practice
Interface / URL: Ovid
Database coverage dates: 1890s to Present.
Search date: 23/08/18
Retrieved records: 38
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A.5: **Source: EconLit**
Interface / URL: Ovid
Database coverage dates: 1886 to 16 August 2018
Search date: 23/08/18
Retrieved records: 12
Search strategy:

1. ascot.ti,ab. (4)
2. (adult social care outcome$ tool-kit$ or adult social care outcome$ toolkit$).ti,ab. (2)
3. (icecap or icepop or icecapo or icecapa).ti,ab. (8)
4. or/1-3 (38)

A.6: **Source: PsycINFO**
Interface / URL: Ovid
Database coverage dates: 1806 to August Week 2 2018
Search date: 23/08/18
Retrieved records: 62
Search strategy:

1. ascot.tw. (23)
2. (adult social care outcome$ tool-kit$ or adult social care outcome$ toolkit$).tw. (12)
3. (icecap or icepop or icecapo or icecapa).tw. (42)
4. or/1-3 (62)
5. remove duplicates from 4 (62)

A.7: **Source: NHS Economic Evaluation Database (NHS EED)**
Interface / URL: CRD Database
Database coverage dates: Coverage up to December 2014. Database now closed to new records.
Search date: 23/08/18
Retrieved records: 7
Search strategy:

1. (ascot) IN NHSEED  5
2. (adult social care outcome* tool-kit*) OR (adult social care outcome* toolkit*) IN NHSEED  1
3. (icecap*) OR (icepop*) IN NHSEDD  2
4. #1 OR #2 OR #3  7

A.8: **Source: ScHARRHud**
Interface / URL: [https://www.scharrhud.org/](https://www.scharrhud.org/)
Database coverage dates: Last update 13th March 2018
Search date: 23/08/18
Retrieved records: 6
Search strategy:
The following search was conducted with ‘Any field’ selected.

ascot OR adult social care outcome* OR ICECAP* OR ICEPOP*

A.9: **Source: Applied Social Science Index and Abstracts (ASSIA)**
Interface / URL: ProQuest
Database coverage dates: 1987 to current
Search date: 23/08/18
Retrieved records: 25
Search strategy:

Set#: S1
Searched for: noft(ascot)
Results: 13

Set#: S2
Searched for: noft("adult social care outcome* tool-kit**" OR "adult social care outcome* toolkit**")
Results: 3

Set#: S3
Searched for: noft(icecap OR icepop OR icecapo OR icecapa)
Results: 10

Set#: S4
Searched for: S1 OR S2 OR S3
Results: 25

A.10: **Source: CINAHL Plus**
Interface / URL: EBSCO
Database coverage dates: 1937 to current
Search date: 23/08/18
Retrieved records: 130
Search strategy:

For each line:
Search modes - Boolean/Phrase
Interface - EBSCOhost Research Databases
Search Screen - Advanced Search
Database - CINAHL Plus

S12 S10 OR S11 130
S11 IN ( icecap OR icepop OR icecapo OR icecapa ) OR TI ( icecap OR icepop OR icecapo
OR icecapa ) OR AB ( icecap OR icepop OR icecapo OR icecapa ) 62
S10 S3 NOT S9 74
S9 S4 OR S5 OR S6 OR S7 OR S8 123,384
S8 TI ( "AngloScandinavian Cardiac Outcome* Trial" OR "Anglo-Scandinavian Cardiac
Outcome* Trial" ) OR AB ( "AngloScandinavian Cardiac Outcome* Trial" OR "Anglo-
Scandinavian Cardiac Outcome* Trial" ) 72
S7 TI hypertension OR hypertensive* OR antihypertensive* OR "blood pressure**" OR
coronary OR cardiovascular 114,921
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S6 TI (triss OR "injury severity score" OR "glasgow coma scale") OR AB (triss OR "injury severity score" OR "glasgow coma scale") 5,352
S5 TI (trauma* N3 (score* OR scoring OR survival OR outcome*) ) OR AB (trauma* N3 (score* OR scoring OR survival OR outcome*)) 4,340
S4 TI ("severity characterisation of trauma" OR "severity characterization of trauma") OR AB ("severity characterisation of trauma" OR "severity characterization of trauma") 15
S3 S1 OR S2 174
S2 IN ("adult social care outcome* tool-kit**" OR "adult social care outcome* toolkit*"") OR TI ("adult social care outcome* tool-kit**" OR "adult social care outcome* toolkit*"") OR AB ("adult social care outcome* tool-kit**" OR "adult social care outcome* toolkit*"") 31
S1 IN ASCOT OR TI ASCOT OR AB ASCOT 170

A.11: Source: Social Services Abstracts
Interface / URL: ProQuest
Database coverage dates: 1979 to current
Search date: 23/08/18
Retrieved records: 2
Search strategy:

Search Strategy

Set#: S1
Searched for: noft(ascot)
Results: 9

Set#: S2
Searched for: noft("adult social care outcome* tool-kit**" OR "adult social care outcome* toolkit**")
Results: 5

Set#: S3
Searched for: noft(icecap OR icepop OR icecapo OR icecapa)
Results: 13

Set#: S4
Searched for: S1 OR S2 OR S3
Results: 22

A.12: Source: ASCOT webpages
Interface / URL: www.pssru.ac.uk/ascot/references/
Database coverage dates: N/A
Search date: 23/08/18
Retrieved records: 27
Search strategy:

The ASCOT references under the headings "ASCOT Applications in the UK" and "International use – ASCOT Applications" were selected and imported to EndNote.
A.13:  Source: ICECAP webpages
Interface / URL: 
Database coverage dates: N/A
Search date: 23/08/18
Retrieved records: 6
Search strategy:

The references in the ICECAP-O section of the website, listed under the heading "Use of the measure is outlined in the following papers" were selected and imported to EndNote.
7.1.2 APPENDIX AB: Search strategies for economic evaluations, resource use or health state utility value studies of social care interventions in older people

A.1: Source: Social Policy and Practice 201807

Interface / URL: OvidSP
Database coverage dates: 1890s to Present
Search date: 30/08/18
Retrieved records: 2995

Search strategy:

1. (elder$ or aging or geriatric$ or gerontol$ or senior citizen$ or seniors or pensioner$ or veteran$ or sexagenarian$ or septuagenarian$ or octogenarian$ or nonagenarian$ or centenarian$).ti,ab,de,hw. (38011)
2. ((old or older or aged) adj3 (patient$1 or people$ or person$ or woman$ or women$ or man or mans or men or mens or male$1 or female$ or adult$ or population$ or resident$ or client$ or consumer$ or service user$ or community or communities or individual$ or citizen$)).ti,ab,de,hw. (86019)
3. (aged care or old$ age or oldest old or later life).ti,ab,de,hw. (7557)
4. or/1-3 (90887)
5. ((economic$ or cost$) adj3 model$) or (monte carlo or markov)).ti,ab,de,hw. (710)
6. ((econom$ or cost or costs or costing or price or pricing) adj3 (analysis or analyses or evaluation$1 or study or studies)).ti,ab,de,hw. (2870)
7. ((economic$ or cost) adj3 (effect$ or utilit$ or benefit$ or consequence$ or outcome$1 or minimi$)).ti,ab,de,hw. (5577)
8. ((economic$ or cost or costs or value) adj4 (decision$1 or threshold$)).ti,ab,de,hw. (163)
9. (value adj2 (money or monetary$)).ti,ab,de,hw. (1374)
10. (return on investment or ROI).ti,ab,de,hw. (139)
11. budget impact$.ti,ab,de,hw. (2)
12. (decision$ adj2 (tree$ or analy$ or model$)).ti,ab,de,hw. (485)
13. resource$1.ti. (1849)
14. (resource$1 adj4 (use$1 or usage or utilit$ or utilis$ or utiliz$)).ti,ab,de,hw. (1453)
15. (visit or visits or visited).ti,ab,de,hw. (3217)
16. appointment$.ti,ab,de,hw. (897)
17. (hospitalization$1 or hospitalisation$1 or hospitalised or hospitalized).ti,ab,de,hw. (961)
18. (admission$1 or readmission$1 or admitted or readmitted).ti,ab,de,hw. (5168)
19. (placement$ or care package$ or support package$).ti,ab,de,hw. (7425)
20. ((place$ or move$ or moving) adj3 (home$1 or facility or facilities or residential$)).ti,ab,de,hw. (1824)
21. hospital stay$.ti,ab,de,hw. (234)
22. (bed adj3 day$1).ti,ab,de,hw. (90)
23. ((days or time or length or duration$1) adj3 (hospital$ or home$ or facility or facilities or residential$)).ti,ab,de,hw. (633)
24. ((days or time or length or duration$1) adj3 (stay or stays or stayed)).ti,ab,de,hw. (543)
25. ((days or time or length or duration$1) adj3 (discharge or discharged)).ti,ab,de,hw. (86)
26. or/5-25 (29430)
27. (quality adjusted or adjusted life year$).ti,ab,de,hw. (101)
28. (qaly$ or qald$ or qale$ or qtime$).ti,ab,de,hw. (73)
29. (illness state$1 or health state$1).ti,ab,de,hw. (52)
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A.2: Source: PsycINFO 1806 to September Week 1 2018

Interface / URL: OvidSP
Database coverage dates: 1806 to September Week 1 2018
Search date: 12/09/18
Retrieved records: 882

Search strategy:

1. geriatric patients/ (12801)
2. aged.hw. (1661)
3. (elder$ or aging or geriatric$ or gerontol$ or senior citizen$ or seniors or pensioner$ or veteran$ or sexagenarian$ or septuagenarian$ or octogenarian$ or nonagenarian$ or centenarian$).ti,ab,hw.id. (168943)
4. ((old or older or aged) adj3 (patient$1 or people$ or person$ or woman$ or women$ or man or mans or men or mens or male$1 or female$ or adult$ or population$ or resident$ or client$ or consumer$ or service user$ or community or communities or individual$ or citizen$)).ti,ab,hw.id. (263168)
5. (aged care or old$ age or oldest old or later life).ti,ab,hw.id. (28610)
6. or/1-5 (373947)
7. markov chains/ (1400)
8. (((economic$ or cost$) adj3 model$) or (monte carlo or markov)).ti,ab,hw.id. (10403)
9. "costs and cost analysis"/ (15625)
10. health care economics/ (778)
11. ((economic$ or cost or costs or costing or price or pricing) adj3 (analysis or analyses or evaluation$1 or study or studies)).ti,ab,hw.id. (24260)
12. ((economic$ or cost) adj3 (effect$ or utilit$ or benefit$ or consequence$ or outcome$1 or minimi$)).ti,ab,hw.id. (25331)
13. ((economic$ or cost or costs or value) adj4 (decision$1 or threshold$)).ti,ab,hw.id. (4449)
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14 (value adj2 (money or monetary)).ti,ab,hw.id. (900)
15 (return on investment or ROI).ti,ab,hw.id. (2297)
16 budget impact$.ti,ab,hw.id. (61)
17 (decision$ adj2 (tree$ or analy$ or model$)).ti,ab,hw.id. (8547)
18 health care utilization/ (14701)
19 resource$1.ti. (16768)
20 (resource$1 adj4 (use$1 or usage or utilit$ or utilis$ or utiliz$)).ti,ab,hw.id. (12536)
21 (visit or visits or visited).ti,ab,hw.id. (38518)
22 appointment$.ti,ab,hw.id. (6644)
23 exp hospitalization/ (21481)
24 (hospitalization$1 or hospitalisation$1 or hospitalised or hospitalized).ti,ab,hw.id. (55289)
25 (admission$1 or readmission$1 or admitted or readmitted).ti,ab,hw.id. (55639)
26 (placement$ or care package$ or support package$).ti,ab,hw.id. (29490)
27 ((place$ or move$ or moving) adj3 (home$1 or facility or facilities or residential)).ti,ab,hw.id. (4715)
28 treatment duration/ (3796)
29 hospital stay$.ti,ab,hw.id. (3301)
30 (bed adj3 day$1).ti,ab,hw.id. (446)
31 ((days or time or length or duration$1) adj3 (hospital$ or home$1 or facility or facilities or residential)).ti,ab,hw.id. (8644)
32 ((days or time or length or duration$1) adj3 (stay or stays or stayed)).ti,ab,hw.id. (6635)
33 ((days or time or length or duration$1) adj3 (discharge or discharged)).ti,ab,hw.id. (1905)
34 or/7-33 (272459)
35 (quality adjusted or adjusted life year$).ti,ab,hw.id. (1589)
36 (qaly$ or qald$ or qale$ or qtime$).ti,ab,hw.id. (1015)
37 (illness state$1 or health state$1).ti,ab,hw.id. (1444)
38 (hui or hui1 or hui2 or hui3).ti,ab,hw.id. (534)
39 (multiattribute$ or multi attribute$).ti,ab,hw.id. (1052)
40 (utility adj3 (score$1 or valu$ or health$ or cost$ or measur$ or disease$ or mean or gain or gains or index$)).ti,ab,hw.id. (4012)
41 (utility loss$ or disutilit$).ti,ab,hw.id. (226)
42 utilities.ti,ab,hw.id. (1868)
43 (eq-5d or eq5d or eq-5 or eq5 or euro qual or euroqual or euro qual5d or euroqual5d or euro qol or euroqol or euro qol5d or euroqol5d or euro qual or euroqual or euro quol5d or euroqol5d or eur qol or eurqol or eur qol5d or eurqol5d or eur?qol or eur?qol5d or euro$ quality of life or european qol).ti,ab,hw.id. (1898)
44 (euro$ adj3 (5 d or 5d or 5 dimension$ or 5dimension$ or 5 domain$ or 5domain$)).ti,ab,hw.id. (556)
45 sf$.ti,ab,hw.id. (12048)
46 (short form$ or shortform$).ti,ab,hw.id. (12085)
47 (time trade off$1 or time tradeoff$1 or tto or timetradeoff$1).ti,ab,hw.id. (371)
48 or/35-47 (29820)
49 6 and 34 (39694)
50 6 and 48 (4155)
51 49 or 50 (43132)
52 (national health service* or nhs*).ti,ab,in,cq. (27523)
53 (english not ((published or publication* or translat* or written or language* or speak* or literature or citation*) adj5 english)).ti,ab. (93001)
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(bath or "bath's" or ((birmingham not alabama*) or ("birmingham's" not alabama*) or bradford or "bradford's" or brighton or "brighton's" or bristol or "bristol's" or carlisle or "carlisle's" or (cambridge not (massachusetts* or boston* or harvard*)) or ("cambridge's" not (massachusetts* or boston* or harvard*)) or (canterbury not zealand*) or ("canterbury's" not zealand*) or chelemsford or "chelmsford's" or chester or "chester's" or chichester or "chichester's" or coventry or "coventry's" or derby or "derby's" or (durham not (carolina* or nc)) or ("durham's" not (carolina* or nc)) or eley or "eley's" or exeter or "exeter's" or gloucester or "gloucester's" or hereford or "hereford's" or hull or "hull's" or lancaster or "lancaster's" or leeds* or leicester or "leicester's" or (lincoln not nebraska*) or ("lincoln's" not nebraska*) or (liverpool not (new south wales* or nsw)) or ("liverpool's" not (new south wales* or nsw)) or ((london not (ontario* or ont or toronto*)) or (london's not (ontario* or ont or toronto*)) or manchester or "manchester's" or (newcastle not (new south wales* or nsw)) or ("newcastle's" not (new south wales* or nsw)) or norwich or "norwich's" or nottingham or "nottingham's" or oxford or "oxford's" or peterborough or "peterborough's" or plymouth or "plymouth's" or portsmouth or "portsmouth's" or preston or "preston's" or ripon or "ripon's" or salford or "salford's" or salisbury or "salisbury's" or sheffield or "sheffield's" or southampton or "southampton's" or st albans or stoke or "stoke's" or sunderland or "sunderland's" or truro or "truro's" or wakefield or "wakefield's" or wells or westminster or "westminster's" or winchester or "winchester's" or wolverhampton or "wolverhampton's" or (worcester not (massachusetts* or boston* or harvard*)) or ("worcester's" not (massachusetts* or boston* or harvard*)) or (york not ("new york*" or ny or ontario* or ont or toronto*)) or ("york's" not ("new york*" or ny or ontario* or ont or toronto*)))*.ti,ab,in,cq. (344961)

(bangor or "bangor's" or cardiff or "cardiff's" or newport or "newport's" or st asaph or "st asaph's" or st davids or swansea or "swansea's").ti,ab,in,cq. (17802)

(aberdeen or "aberdeen's" or dundee or "dundee's" or edinburgh or "edinburgh's" or glasgow or "glasgow's" or inverness or (perth not australia*) or ("perth's" not australia*) or stirling or "stirling's").ti,ab,in,cq. (42966)

/armagh or "armagh's" or belfast or "belfast's" or lisburn or "lisburn's" or londonderry or "londonderry's" or derry or "derry's" or newry or "newry's").ti,ab,in,cq. (5606)

/or/52-58 (589280)

51 and 59 (5953)

exp social services/ (42204)

exp social casework/ (17391)

social programs/ (1588)

(social adj3 (care$ or caring or work$ or welfare$ or service$ or support$ or setting$ or help$ or intervention$ or provision$ or provider$ or assistance)).ti,ab,hw,id. (151536)

/community health$.ti,ab,hw,id. (6675)

telemedicine/ (4471)

digital$.ti,ab,hw,id. (21296)

assisted living/ or independent living programs/ (1040)

((assisted or assistive) adj living).ti,ab,hw,id. (1207)

caregivers/ or caregiver burden/ (27898)
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caregiver$ or care-giver$ or caregiving or care-giving or carer$).ti,ab,hw,id. (60298)
community involvement/. (4167)
(communit$ adj3 capacit$).ti,ab,hw,id. (965)
(local$ adj6 support$).ti,ab,hw,id. (2638)
befriend$.ti,ab,hw,id. (492)
timebank$ or time-bank$).ti,ab,hw,id. (27)
empower$.ti,ab,hw.id. (25664)
self-care skills/ (4172)
exp self-help techniques/ (10004)
(selfcare or selfcaring).ti,ab,hw.id. (56)
(self adj (care or caring or manag$)).ti,ab,hw.id. (20415)
(practical adj5 (support$ or help$ or assist$ or service$ or intervention$)).ti,ab,hw.id. (6841)
(repair$ adj3 (home or homes or hous$)).ti,ab,hw,id. (65)
garden$ or shop$).ti,ab,hw.id. (11724)
social support/ (33448)
exp housing/ (8484)
nursing homes/ (8047)
residential care institutions/ (10089)
(residential adj3 (care or home or homes or hous$ or accommodation$ or living)).ti,ab,hw,id. (13018)
(supported adj (care or home or homes or hous$ or accommodation$ or living)).ti,ab,hw,id. (649)
(sheltered adj (care or home or homes or hous$ or accommodation$ or living)).ti,ab,hw.id. (266)
(retirement adj (care or home or homes or hous$ or accommodation$ or living)).ti,ab,hw.id. (212)
((community or social) adj3 (home or homes or hous$ or accommodation$ or living)).ti,ab,hw.id. (14300)
nursing home$.ti,ab,hw.id. (12097)
care home$.ti,ab,hw.id. (1638)
home environment/ (9217)
(reable$ or re-able$).ti,ab,hw.id. (24)
(intermediate adj3 (care or caring)).ti,ab,hw.id. (484)
(intermediate adj3 (setting$ or unit$ or scheme$ or service$ or facility or facilities or residen$ or home$ or hous$ or nurs$ or sector$ or provision$ or provider$ or team$ or model$ or integrated or interdisciplinary or multidisciplinary or inter-disciplinary or multi-disciplinary or welfare or support$ or help$ or assistance or intervention$)).ti,ab,hw.id. (908)
community based.ti,ab,hw,id. (26863)
crisis response$.ti,ab,hw.id. (454)
home-based.ti,ab,hw.id. (4387)
bed-based.ti,ab,hw.id. (18)
(local$ adj3 (integrate$ or pioneer$)).ti,ab,hw.id. (729)
(integration adj3 pioneer$).ti,ab,hw.id. (9)
((personal$ or individual$) adj2 budget$).ti,ab,hw.id. (185)
((home or homes or hous$) adj3 (modif$ or adapt$ or assess$ or safe$ or hazard$)).ti,ab,hw.id. (3819)
((social or community) adj3 (prescrib$ or prescrip$)).ti,ab,hw.id. (443)
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((social or community or non-medical or nonmedical) adj referral$).ti,ab,hw,id. (94)

(linking adj (scheme$ or program$)).ti,ab,hw,id. (25)

((wellbeing or well-being) adj program$).ti,ab,hw,id. (74)

((exercis$ or walk$ or gym or gyms or cycle or cycling or swim$ or aqua$ or books or reading or bibliotherapy or art or arts or creativity or learning or education or activity or activities or volunteer$ or voluntary or club or clubs or sport$ or dancing or dance$ or fish$ or knit$ or self-help or selfhelp or computer$ or mutual aid) adj3 (prescrib$ or prescrip$)).ti,ab,hw,id. (1529)

((exercis$ or walk$ or gym or gyms or cycle or cycling or swim$ or aqua$ or books or reading or bibliotherapy or art or arts or creativity or learning or education or activity or activities or volunteer$ or voluntary or club or clubs or sport$ or dancing or dance$ or fish$ or knit$ or self-help or selfhelp or computer$ or mutual aid) adj3 referral$).ti,ab,hw,id. (1007)

(signposting or sign-posting).ti,ab,hw,id. (124)

home care/ (6053)

(homecare or homecaring).ti,ab,hw,id. (274)

((home or homes) adj3 (care or caring or service$ or assistance or support$)).ti,ab,hw,id. (16334)

((domicil$ or outreach or out-reach) adj (care or caring or service$ or assistance or support$)).ti,ab,hw,id. (564)

(homemaker$ or home-maker$).ti,ab,hw,id. (1273)

"hospital at home".ti,ab,hw,id. (39)

((help or helping) adj4 (home or homes)).ti,ab,hw,id. (775)

integrated services/ (3231)

(integrated adj3 (care or caring or service$ or healthcare)).ti,ab,hw,id. (6922)

(tailored adj3 activit$).ti,ab,hw,id. (174)

or/61-126 (418862)

60 and 127 (1736)

der elder care/ (4000)

aging in place/ (134)

((elder$ or aged or aging or geriatric$ or gerontoi$ or old$ age or oldest old or later life or pensioner$ or senior$ or old$ people or old$ person$ or old$ patient$ or old$ woman$ or old$ women$ or old$ man or old$ mans or old$ men or old$ mens or old$ male$ or old$ female$ or old$ adult$ or old$ population$ or old$ resident$ or old$ client$ or old$ consumer$ or old$ service user$ or old$ community or old$ communities or old$ individual$ or old$ citizen$) adj3 (care$ or caring or work$ or welfare$ or service$)).ti,ab,hw,id. (26942)

or/129-131 (27042)

132 and (34 or 48) (4843)

134 and 59 (778)

135 128 or 134 (2047)

limit 135 to yr="2008 -Current" (882)

remove duplicates from 136 (882)
A.3: Source: ScHARRHUD
Interface / URL: https://www.scharrhud.org/index.php?recordsN1&m=search
Database coverage dates: Information not found
Search date: 03/09/18
Retrieved records: 146
Search strategy:

The following 4 searches were conducted separately. ‘Any field’ was selected. Searches were limited to ‘Year Published’ 2008 – 2018. 194 records were imported into an empty EndNote library with default deduplication settings. 48 records were automatically removed as duplicates, 146 records remained for retrieval

1. (elder* or aging or geriatric* or gerontol* or senior citizen* or seniors or pensioner* or veteran* or sexagenarian* or septuagenarian* or octogenarian* or nonagenarian* or centenarian*):ti,ab,kw = 78 results
2. (old or older) and (patient* or people* or person* or woman* or women* or man or mans or men or mens or male* or female* or adult* or population* or resident* or client* or consumer* or service user* or community or communities or individual* or citizen*):ti,ab,kw = 101
3. (aged patient* or aged people* or aged person* or aged woman* or aged women* or aged man or aged men or aged men or aged male* or aged female* or aged adult* or aged population* or aged resident* or aged client* or aged consumer* or aged service user* or aged community or aged communities or aged individual* or aged citizen*):ti,ab,kw = 2
4. aged care or old* age or oldest old or later life = 13

A.4: Source: Cochrane Database of Systematic Reviews Issue 9 of 12, September 2018
Interface / URL: Cochrane Library
Database coverage dates: Information not found
Search date: 03/08/18
Retrieved records: 261
Search strategy:

#1 [mh aged] 1669
#2 [mh "Health Services for the Aged"] 433
#3 [mh "HOMES FOR THE AGED"] 559
#4 [mh "HOUSING FOR THE ELDERLY"] 35
#5 (elder* or aging or geriatric* or gerontol* or senior next citizen* or seniors or pensioner* or veteran* or sexagenarian* or septuagenarian* or octogenarian* or nonagenarian* or centenarian*):ti,ab,kw 44661
#6 ((old or older or aged) near/3 (patient* or people* or person* or woman* or women* or man or mans or men or mens or male* or female* or adult* or population* or resident* or client* or consumer* or service next user* or community or communities or individual* or citizen*)):ti,ab,kw 123460
#7 ("aged care" or old* next age or "oldest old" or "later life"):ti,ab,kw 3702
#8 #1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 152379
#9 [mh "models, economic"] 298
#10 [mh "markov chains"] 248
#11 [mh "monte carlo method"] 179
#12 (((economic* or cost*) near/3 model*) or ("monte carlo" or markov)):ti,ab,kw 2607
The older adults’ NHS and social care return on investment tool

#13 ((econom* or cost or costs or costing or price or pricing) near/3 (analysis or analyses or evaluation* or study or studies)):ti,ab,kw 19192
#14 ((economic* or cost) near/3 (effect* or utilit* or benefit* or consequence* or outcome* or minimi*)):ti,ab,kw 24993
#15 ((economic* or cost or costs or value) near/4 (decision* or threshold*)):ti,ab,kw 1412
#16 (value near/2 (money or monetary)):ti,ab,kw 230
#17 (*return on investment* or ROI):ti,ab,kw 517
#18 (budget next impact*):ti,ab,kw 139
#19 (decision* near/2 (tree* or analy* or model*)):ti,ab,kw 1468
#20 resource*:ti 1247
#21 (resource* near/4 (use* or usage or utilit* or utilis* or utiliz*)):ti,ab,kw 4467
#22 [mh "Office Visits"] 427
#23 (visit or visits or visited):ti,ab,kw 45702
#24 appointment*:ti,ab,kw 4249
#25 [mh ^Hospitalization] 321
#26 (hospitalization* or hospitalisation* or hospitalised or hospitalized):ti,ab,kw 35643
#27 (admission* or readmission* or admitted or readmitted):ti,ab,kw 33828
#28 [mh "Residential Facilities"] 1557
#29 (placement* or care next package* or support next package*):ti,ab,kw 11217
#30 ((place* or move* or moving) near/3 (home* or facility or facilities or residential)):ti,ab,kw 744
#31 [mh ^"length of stay"] 6514
#32 (hospital next stay*):ti,ab,kw 13458
#33 (bed near/3 day*):ti,ab,kw 509
#34 ((days or time or length or duration*) near/3 (hospital* or home* or facility or facilities or residential)):ti,ab,kw 17448
#35 ((days or time or length or duration*) near/3 (stay or stays or stayed)):ti,ab,kw 19899
#36 ((days or time or length or duration*) near/3 (discharge or discharged)):ti,ab,kw 3752
#37 #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26 OR #27 OR #28 OR #29 OR #30 OR #31 OR #32 OR #33 OR #34 OR #35 OR #36 156643
#38 [mh "Quality-Adjusted Life Years"] 1029
#39 (*quality adjusted" or adjusted next life next year*):ti,ab,kw 3437
#40 (qaly* or qald* or qale* or qtime*):ti,ab,kw 2277
#41 (illness next state* or health next state*):ti,ab,kw 710
#42 (hui or hui1 or hui2 or hui3):ti,ab,kw 159
#43 (multiattribute* or multi next attribute*):ti,ab,kw 56
#44 (utility near/3 (score* or valu* or health* or cost* or measur* or disease* or mean or gain or gains or index*)):ti,ab,kw 2457
#45 (utility next loss* or disutilit*):ti,ab,kw 49
#46 utilities:ti,ab,kw 703
#47 (eq-5d or eq5d or eq-5 or eq5 or "euro qual" or euroqual or "euro qual5d" or euroqual5d or "euro qol" or euroqol or "euro qol5d" or euroqol5d or “euro qol” or euroqol or “euro qol5d” or euroqol5d or “eur qol” or eurqol or “eur qol5d” or “eur qol5d” or eurqol or eurqol5d or eurqol5d or euro* next quality next of next life or european next qol):ti,ab,kw 4264
A.5: Source: Econlit 1886 to August 30, 2018

Interface / URL: OvidSP

Database coverage dates: 1886 to August 30, 2018

Search date: 07/09/18

Retrieved records: 372

Search strategy:

1. (elder$ or aging or geriatric$ or gerontol$ or senior citizen$ or seniors or pensioner$ or veteran$ or sexagenarian$ or septuagenarian$ or octogenarian$ or nonagenarian$ or centenarian$).ti,ab,kw,hw. (15412)
2. ((old or older or aged) adj3 (patient$1 or people$ or person$ or woman$ or women$ or man or mans or men or mens or male$1 or female$ or adult$ or population$ or resident$ or client$ or consumer$ or service user$ or community or communities or individual$ or citizen$)).ti,ab,kw,hw. (4522)
3. (aged care or old$ age or oldest old or later life).ti,ab,kw,hw. (2703)
4. or/1-3 (19406)
5. (((economic$ or cost$) adj3 model$) or (monte carlo or markov)).ti,ab,kw,hw. (34816)
6. ((econom$ or cost or costs or costing or price or pricing) adj3 (analysis or analyses or evaluation$1 or study or studies)).ti,ab,kw,hw. (141741)
7. ((economic$ or cost) adj3 (effect$ or utilit$ or benefit$ or consequence$ or outcome$1 or minimi$)).ti,ab,kw,hw. (36927)
8. ((economic$ or cost or costs or value) adj4 (decision$1 or threshold$)).ti,ab,kw,hw. (7038)
9. (value adj2 (money or monetary)).ti,ab,kw,hw. (1150)
10. (return on investment or ROI).ti,ab,kw,hw. (588)
11. budget impact$.ti,ab,kw,hw. (58)
12. (decision$ adj2 (tree$ or analy$ or model$)).ti,ab,kw,hw. (4051)
13. resource$1.ti. (14853)
14. (resource$1 adj4 (use$1 or usage or utilit$ or utilis$ or utiliz$)).ti,ab,kw,hw. (5175)
15. (visit or visits or visited).ti,ab,kw,hw. (2849)
16. appointment$.ti,ab,kw,hw. (973)
17. (hospitalization$1 or hospitalisation$1 or hospitalised or hospitalized).ti,ab,kw,hw. (650)
18. (admission$1 or readmission$1 or admitted or readmitted).ti,ab,kw,hw. (2311)
19. (placement$ or care package$ or support package$).ti,ab,kw,hw. (1518)
20. ((place$ or move$ or moving) adj3 (home$1 or facility or facilities or residential$)).ti,ab,kw,hw. (384)
21. hospital stay$.ti,ab,kw,hw. (123)
22. (bed adj3 day$1).ti,ab,kw,hw. (27)
((days or time or length or duration$1) adj3 (hospital$ or home$1 or facility or facilities or residential))).ti,ab,kw,hw. (698)
((days or time or length or duration$1) adj3 (stay or stays or stayed))).ti,ab,kw,hw. (587)
((days or time or length or duration$1) adj3 (discharge or discharged))).ti,ab,kw,hw. (45)
or/5-25 (227828)
(quality adjusted or adjusted life year$).ti,ab,kw,hw. (743)
(qaly$ or qald$ or qale$ or qtime$).ti,ab,kw,hw. (437)
(illness state$1 or health state$1).ti,ab,kw,hw. (344)
(hui or hui1 or hui2 or hui3).ti,ab,kw,hw. (91)
(multiattribute$ or multi attribute$).ti,ab,kw,hw. (494)
(utility adj3 (score$1 or valu$ or health$ or cost$ or measur$ or disease$ or mean or gain or gains or index$)).ti,ab,kw,hw. (1881)
(utility loss$ or disutility$).ti,ab,kw,hw. (772)
utilities.ti,ab,kw,hw. (25293)
(eq-5d or eq5d or eq-5 or eq5 or euro qual or euroqual or euro qual5d or euroqual5d or euro qol or euroqol or euro qol5d or euroqol5d or euro qual or euroqol or euro quol5d or euroqol5d or euro qol or euroqol or eur qol5d or eur qol5d or eur?qol or eur?qol5d or euro$ quality of life or european qol).ti,ab,kw,hw. (180)
(euro$ adj3 (5 d or 5d or 5 dimension$ or 5dimension$ or 5 domain$ or 5domain$)).ti,ab,kw,hw. (24)
sf$.ti,ab,kw,hw. (1214)
(short form$ or shortform$).ti,ab,kw,hw. (65)
(time trade off$1 or time tradeoff$1 or tto or timetradeoff$1).ti,ab,kw,hw. (175)
or/27-39 (30360)
26 or 40 (252442)
(social adj3 (care$ or caring or work$ or welfare$ or service$ or support$ or setting$ or help$ or intervention$ or provision$ or provider$ or assistance$)).ti,ab,kw,hw. (13487)
_Community adj3 (care$ or caring or work$ or welfare$ or service$ or support$ or setting$ or help$ or intervention$ or provision$ or provider$ or assistance$ or facility or facilities or hospital$ or ward$ or centre$ or center$)).ti,ab,kw,hw. (2136)
community health$.ti,ab,kw,hw. (309)
digital$.ti,ab,kw,hw. (3644)
((assisted or assistive) adj living).ti,ab,kw,hw. (44)
(caregiver$ or care-giver$ or caregiving or care-giving or carer$).ti,ab,kw,hw. (860)
(community$ adj3 capacity$).ti,ab,kw,hw. (180)
(local$ adj6 support$).ti,ab,kw,hw. (1106)
befriend$.ti,ab,kw,hw. (13)
(timebank$ or time-bank$).ti,ab,kw,hw. (67)
empower$.ti,ab,kw,hw. (3662)
(selfcare or selfcaring).ti,ab,kw,hw. (1)
(self adj (care or caring or manag$)).ti,ab,kw,hw. (528)
(practical adj5 (support$ or help$ or assist$ or service$ or intervention$)).ti,ab,kw,hw. (327)
(repair$ adj3 (home or homes or hous$)).ti,ab,kw,hw. (24)
(garden$ or shop$).ti,ab,kw,hw. (4357)
(residential adj3 (care or home or homes or hous$ or accommodation$ or living)).ti,ab,kw,hw. (1798)
(supported adj (care or home or homes or hous$ or accommodation$ or living)).ti,ab,kw,hw. (13)
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<tr>
<th>Line</th>
<th>Term</th>
<th>Count</th>
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<tr>
<td>60</td>
<td>(sheltered adj (care or home or homes or hous$ or accommodation$ or living)).ti,ab,kw,hw.</td>
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<td>61</td>
<td>(retirement adj (care or home or homes or hous$ or accommodation$ or living)).ti,ab,kw,hw.</td>
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<td>62</td>
<td>((community or social) adj3 (home or homes or hous$ or accommodation$ or living)).ti,ab,kw,hw.</td>
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<td>63</td>
<td>nursing home$.ti,ab,kw,hw.</td>
<td>(531)</td>
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<td>64</td>
<td>care home$.ti,ab,kw,hw.</td>
<td>(60)</td>
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<td>65</td>
<td>(reable$ or re-able$).ti,ab,kw,hw.</td>
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<td>66</td>
<td>(intermediate adj3 (care or caring)).ti,ab,kw,hw.</td>
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<td>67</td>
<td>(intermediate adj3 (setting$ or unit$ or scheme$ or service$ or facility or facilities or resident$ or home$ or hous$ or nurs$ or sector$ or provision$ or provider$ or team$ or model$ or integrated or interdisciplinary or multidisciplinary or inter-disciplinary or multi-disciplinary or welfare or support$ or help$ or assistance or intervention$)).ti,ab,kw,hw.</td>
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<td>community based.ti,ab,kw,hw.</td>
<td>(1405)</td>
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<td>crisis response$.ti,ab,kw,hw.</td>
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<td>home-based.ti,ab,kw,hw.</td>
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<td>71</td>
<td>bed-based.ti,ab,kw,hw.</td>
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<td>72</td>
<td>(local$ adj3 (integrat$ or pioneer$)).ti,ab,kw,hw.</td>
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<td>(integration adj3 pioneer$).ti,ab,kw,hw.</td>
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<td>74</td>
<td>((personal$ or individual$) adj2 budget$).ti,ab,kw,hw.</td>
<td>(168)</td>
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<td>((home or homes or hous$) adj3 (modif$ or adapt$ or assess$ or safe$ or hazard$)).ti,ab,kw,hw.</td>
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<td>((social or community) adj3 (prescrib$ or prescrip$)).ti,ab,kw,hw.</td>
<td>(32)</td>
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<td>77</td>
<td>((social or community or non-medical or nonmedical) adj referral$).ti,ab,kw,hw.</td>
<td>(2)</td>
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<td>78</td>
<td>(linking adj (scheme$ or program$)).ti,ab,kw,hw.</td>
<td>(5)</td>
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<td>79</td>
<td>((wellbeing or well-being) adj program$).ti,ab,kw,hw.</td>
<td>(7)</td>
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<td>((exercis$ or walk$ or gym or gyms or cycle or cycling or swim$ or aqua$ or books or reading or bibliotherapy or art or arts or creativity or learning or education or activity or activities or volunteer$ or voluntary or club or clubs or sport$ or dancing or dance$ or fish$ or knit$ or self-help or selfhelp or computer$ or mutual aid) adj3 (prescrib$ or prescrip$)).ti,ab,kw,hw.</td>
<td>(44)</td>
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<td>((exercis$ or walk$ or gym or gyms or cycle or cycling or swim$ or aqua$ or books or reading or bibliotherapy or art or arts or creativity or learning or education or activity or activities or volunteer$ or voluntary or club or clubs or sport$ or dancing or dance$ or fish$ or knit$ or self-help or selfhelp or computer$ or mutual aid) adj3 referral$).ti,ab,kw,hw.</td>
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<tr>
<td>82</td>
<td>(signposting or sign-posting).ti,ab,kw,hw.</td>
<td>(10)</td>
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<td>83</td>
<td>(homecare or homecaring).ti,ab,kw,hw.</td>
<td>(24)</td>
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<td>84</td>
<td>((home or homes) adj3 (care or caring or service$ or assistance or support$)).ti,ab,kw,hw.</td>
<td>(870)</td>
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<td>85</td>
<td>(( domicil$ or outreach or out-reach) adj (care or caring or service$ or assistance or support$)).ti,ab,kw,hw.</td>
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<td>86</td>
<td>(homemaker$ or home-maker$).ti,ab,kw,hw.</td>
<td>(62)</td>
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<td>87</td>
<td>&quot;hospital at home&quot;.ti,ab,kw,hw.</td>
<td>(4)</td>
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<td>88</td>
<td>((help or helping) adj4 (home or homes)).ti,ab,kw,hw.</td>
<td>(58)</td>
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<tr>
<td>89</td>
<td>(integrated adj3 (care or caring or service$ or healthcare)).ti,ab,kw,hw.</td>
<td>(244)</td>
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<td>90</td>
<td>(tailored adj3 activit$).ti,ab,kw,hw.</td>
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<td>91</td>
<td>or/42-90 (37639)</td>
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The older adults’ NHS and social care return on investment tool

92 4 and 41 and 91 (383)
93 (elder$ or aged or aging or geriatric$ or gerontol$ or old$ age or oldest old or later life or pensioner$ or senior$ or old$ people or old$ person$ or old$ patient$ or old$ woman$ or old$ women$ or old$ man or old$ mans or old$ men or old$ mens or old$ male$ or old$ female$ or old$ adult$ or old$ population$ or old$ resident$ or old$ client$ or old$ consumer$ or old$ service user$ or old$ community or old$ communities or old$ individual$ or old$ citizen$) adj3 (care$ or caring or work$ or welfare$ or service$).ti,ab,kw,hw. (2125)
94 41 and 93 (301)
95 92 or 94 (611)
96 limit 95 to yr="2008 -Current" (372)

Note: Applying English language limits removes some English language papers – particularly working papers – so this limit was not applied.

A.6: Source: NHS Economic Evaluation Database (NHS EED)
Interface / URL: https://www.crd.york.ac.uk/CRDWeb/HomePage.asp
Database coverage dates: Information not found. Funded from 1994 to March 2015. Searches to populate the database ceased at end of 2014.
Search date: 07/09/18
Retrieved records: 871
Search strategy:

1 (MeSH DESCRIPTOR Aged EXPLODE ALL TREES) 9687
2 (elder* or aging or geriatric* or gerontol* or senior citizen* or seniors or pensioner* or veteran* or sexagenarian* or septuagenarian* or octogenarian* or nonagenarian* or centenarian*) 2807
3 ((old or older or aged) near3 (patient* or people* or person* or woman* or women* or man or mens or men or mens or male* or female* or adult* or population* or resident* or client* or consumer* or service user* or community or communities or individual* or citizen*)) 3717
4 ((patient* or people* or person* or woman* or women* or man or mens or men or male* or female* or adult* or population* or resident* or client* or consumer* or service user* or community or communities or individual* or citizen*) near3 (old or older)) 1004
5 (aged care or old* age or oldest old or later life) 188
6 (#1 OR #2 OR #3 OR #4 OR #5) 12667
7 MeSH DESCRIPTOR Social Welfare EXPLODE ALL TREES 162
8 MeSH DESCRIPTOR Social Work EXPLODE ALL TREES 50
9 ((social near3 (care* or caring or work* or welfare* or service* or support* or setting* or help* or intervention* or provision* or provider* or assistance))) 2817
10 (((care* or caring or work* or welfare* or service* or support* or setting* or help* or intervention* or provision* or provider* or assistance) near3 social)) 775
11 MeSH DESCRIPTOR Community Health Services 263
12 ([(community near3 (care* or caring or work* or welfare* or service* or support* or setting* or help* or intervention* or provision* or provider* or assistance or facility or facilities or hospital* or ward* or centre* or center*))]) 2040
13 (((care* or caring or work* or welfare* or service* or support* or setting* or help* or intervention* or provision* or provider* or assistance or facility or facilities or hospital* or ward* or centre* or center*)) near3 community)) 1603
The older adults' NHS and social care return on investment tool

14  (community health*) 628
15  MeSH DESCRIPTOR Telemedicine EXPLODE ALL TREES 423
16  (digital*) 488
17  MeSH DESCRIPTOR Assisted Living Facilities 4
18  (((assisted or assistive) near0 living)) 19
19  MeSH DESCRIPTOR Caregivers 217
20  ((caregiver* or care-giver* or caregiving or care-giving or carer*)) 1294
21  ((communit* near3 capacit*)) 2
22  ((capacit* near3 communit*)) 3
23  ((local* near6 support*)) 23
24  (support* near6 local*) 39
25  (befriend*) 10
26  ((timebank* or time-bank*)) 0
27  (empower*) 79
28  MeSH DESCRIPTOR Self Care 479
29  ((selfcare or selfcaring)) 0
30  ((self near0 (care or caring or manag*))) 840
31  ((practical near5 (support* or help* or assist* or service* or intervention*)) 43
32  (((support* or help* or assist* or service* or intervention*) near5 practical)) 19
33  ((repair* near3 (home or homes or hous*)) 3
34  (((home or homes or hous*) near3 repair*)) 3
35  ((garden* or shop*)) 106
36  MeSH DESCRIPTOR social support 331
37  MeSH DESCRIPTOR housing 36
38  MeSH DESCRIPTOR public housing 5
39  MeSH DESCRIPTOR Nursing Homes 198
40  MeSH DESCRIPTOR Residential Facilities 33
41  ((residential near3 (care or home or homes or hous* or accommodation* or living))) 194
42  (((care or home or homes or hous* or accommodation* or living) near3 residential)) 78
43  ((supported near0 (care or home or homes or hous* or accommodation* or living))) 13
44  ((sheltered near0 (care or home or homes or hous* or accommodation* or living))) 19
45  ((retirement near0 (care or home or homes or hous* or accommodation* or living))) 4
46  (((community or social) near3 (home or homes or hous* or accommodation* or living))) 170
47  (((home or homes or hous* or accommodation* or living) near3 (community or social))) 275
48  (nursing home*) 597
49  (care home*) 133
50  ((reable* or re-able*)) 3
51  MeSH DESCRIPTOR Intermediate Care Facilities 6
52  ((intermediate near3 (care or caring))) 42
53  (((care or caring) near3 intermediate)) 16
The older adults' NHS and social care return on investment tool

(((intermediate near3 (setting* or unit* or scheme* or service* or facility or facilities or residen* or home* or hous* or nurs* or sector* or provision* or provider* or team* or model* or integrated or interdisciplinary or multidisciplinary or inter-disciplinary or multi-disciplinary or welfare or support* or help* or assistance or intervention*)))

(((setting* or unit* or scheme* or service* or facility or facilities or residen* or home* or hous* or nurs* or sector* or provision* or provider* or team* or model* or integrated or interdisciplinary or multidisciplinary or inter-disciplinary or multi-disciplinary or welfare or support* or help* or assistance or intervention*) near3 intermediate))

((community based) 622

(crisis response*) 1

(home-based) 322

(bed-based) 0

((local* near3 (integrat* or pioneer*))) 5

(((integrat* or pioneer*) near3 local*)) 3

((integration near3 pioneer*)) 0

((pioneer* near3 integration)) 0

(((personal* or individual*) near2 budget*)) 2

((budget* near3 (personal* or individual*))) 1

(((home or homes or hous*) near3 (modif* or adapt* or assess* or safe* or hazard*)))

148

(((modif* or adapt* or assess* or safe* or hazard*) near3 (home or homes or hous*)))

137

(((social or community) near3 (prescrib* or prescrip*))) 11

(((prescrib* or prescrip*) near3 (social or community))) 12

(((social or community or non-medical or nonmedical) near0 referral*)) 4

((linking near0 (scheme* or program*))) 0

(((wellbeing or well-being) near0 program*)) 1

(((exercis* or walk* or gym or gyms or cycle or cycling or swim* or aqua* or books or reading or bibliotherapy or art or arts or creativity or learning or education or activity or activities or volunteer* or voluntary or club or clubs or sport* or dancing or dance* or fish* or knit* or self-help or selfhelp or computer* or mutual aid) near3 (prescrib* or prescrip*)))

93

(((prescrib* or prescrip*) near3 (exercis* or walk* or gym or gyms or cycle or cycling or swim* or aqua* or books or reading or bibliotherapy or art or arts or creativity or learning or education or activity or activities or volunteer* or voluntary or club or clubs or sport* or dancing or dance* or fish* or knit* or self-help or selfhelp or computer* or mutual aid) near3 referral*))

43

(((refferal* near3 (exercis* or walk* or gym or gyms or cycle or cycling or swim* or aqua* or books or reading or bibliotherapy or art or arts or creativity or learning or education or activity or activities or volunteer* or voluntary or club or clubs or sport* or dancing or dance* or fish* or knit* or self-help or selfhelp or computer* or mutual aid)))

61

((signposting or sign-posting)) 2

MeSH DESCRIPTOR home care services 365

MeSH DESCRIPTOR home care services, hospital-based 66

MeSH DESCRIPTOR home health nursing 0

MeSH DESCRIPTOR home nursing EXPLODE ALL TREES 65
The older adults’ NHS and social care return on investment tool

MeSH DESCRIPTOR homemaker services 1
((homecare or homecaring)) 15
(((home or homes) near3 (care or caring or service* or assistance or support*))) 1009
(((care or caring or service* or assistance or support*) near3 (home or homes))) 575
(((domicil* or outreach or out-reach) near0 (care or caring or service* or assistance or support*))) 49
((homemaker* or home-maker*)) 15
(hospital at home) 31
(((help or helping) near4 (home or homes))) 14
(((home or homes) near4 (help or helping))) 53
MeSH DESCRIPTOR Delivery of Health Care, Integrated 104
((integrated near3 (care or caring or service* or healthcare))) 147
(((care or caring or service* or healthcare) near3 integrated)) 137
(tailored near3 activit*) 10
(activit* near3 tailored) 6
#7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26 OR #27 OR #28 OR #29 OR #30 OR #31 OR #32 OR #33 OR #34 OR #35 OR #36 OR #37 OR #38 OR #39 OR #40 OR #41 OR #42 OR #43 OR #44 OR #45 OR #46 OR #47 OR #48 OR #49 OR #50 OR #51 OR #52 OR #53 OR #54 OR #55 OR #56 OR #57 OR #58 OR #59 OR #60 OR #61 OR #62 OR #63 OR #64 OR #65 OR #66 OR #67 OR #68 OR #69 OR #70 OR #71 OR #72 OR #73 OR #74 OR #75 OR #76 OR #77 OR #78 OR #79 OR #80 OR #81 OR #82 OR #83 OR #84 OR #85 OR #86 OR #87 OR #88 OR #89 OR #90 OR #91 OR #92 OR #93 OR #94 OR #95 8848
#6 AND #96 2857
MeSH DESCRIPTOR Housing for the Elderly 7
MeSH DESCRIPTOR Homes for the Aged 86
MeSH DESCRIPTOR Health Services for the Aged 154
(((elder* or aged or aging or geriatric* or gerontol* or old* age or oldest old or later life or pensioner* or senior* or old* people or old* person* or old* patient* or old* woman* or old* women* or old* man or old* mans or old* men or old* mens or old* male* or old* female* or old* female* or old* male* or old* population* or old* resident* or old* client* or old* consumer* or old* service user* or old* community or old* communities or old* individual* or old* citizen*) near3 (care* or caring or work* or welfare* or service*))) 1150
(((care* or caring or work* or welfare* or service*) near3 (elder* or aged or aging or geriatric* or gerontol* or old* age or oldest old or later life or pensioner* or senior* or old* people or old* person* or old* patient* or old* woman* or old* men or old* mans or old* men or old* mans or old* male* or old* female* or old* female* or old* male* or old* population* or old* resident* or old* client* or old* consumer* or old* service user* or old* community or old* communities or old* individual* or old* citizen*)) 645
#97 OR #98 OR #99 OR #100 OR #101 OR #102 3732
(#103) IN NHSEED FROM 2008 TO 2018 871
A.7: Source: Database of Abstracts of Reviews of Effects (DARE)

Interface / URL: https://www.crd.york.ac.uk/CRDWeb/HomePage.asp

Database coverage dates: Information not found. Funded from 1994 to March 2015. Searches to populate the database ceased at end of 2014.

Search date: 07/09/18

Retrieved records: 260

Search strategy:

1. (MeSH DESCRIPTOR Aged EXPLODE ALL TREES) 9687
2. (elder* or aging or geriatric* or gerontol* or senior citizen* or seniors or pensioner* or veteran* or sexagenarian* or septuagenarian* or octogenarian* or nonagenarian* or centenarian*) 2807
3. ((old or older or aged) near3 (patient* or people* or person* or woman* or women* or man or mans or men or mens or male* or female* or adult* or population* or resident* or client* or consumer* or service user* or community or communities or individual* or citizen*)) 3717
4. ((patient* or people* or person* or woman* or women* or man or mans or men or mens or male* or female* or adult* or population* or resident* or client* or consumer* or service user* or community or communities or individual* or citizen*) near3 (old or older)) 1004
5. (aged care or old* age or oldest old or later life) 188
6. (#1 OR #2 OR #3 OR #4 OR #5) 12667
7. MeSH DESCRIPTOR Social Welfare EXPLODE ALL TREES 162
8. MeSH DESCRIPTOR Social Work EXPLODE ALL TREES 50
9. ((social near3 (care* or caring or work* or welfare* or service* or support* or setting* or help* or intervention* or provision* or provider* or assistance))) 2817
10. (((care* or caring or work* or welfare* or service* or support* or setting* or help* or intervention* or provision* or provider* or assistance) near3 social)) 775
11. MeSH DESCRIPTOR Community Health Services 263
12. ((community near3 (care* or caring or work* or welfare* or service* or support* or setting* or help* or intervention* or provision* or provider* or assistance or facility or facilities or hospital* or ward* or centre* or center*))) 2040
13. (((care* or caring or work* or welfare* or service* or support* or setting* or help* or intervention* or provision* or provider* or assistance or facility or facilities or hospital* or ward* or centre* or center*)) near3 community) 1603
14. (community health*) 628
15. MeSH DESCRIPTOR Telemedicine EXPLODE ALL TREES 423
16. (digital*) 488
17. MeSH DESCRIPTOR Assisted Living Facilities 4
18. (((assisted or assistive) near0 living)) 19
19. MeSH DESCRIPTOR Caregivers 217
20. ((caregiver* or care-giver* or caregiving or care-giving or carer*)) 1294
21. ((communit* near3 capacit*)) 2
22. ((capacit* near3 communit*)) 3
23. ((local* near6 support*)) 23
24. (support* near6 local*) 39
25. (befriend*) 10
26. ((timebank* or time-bank*)) 0
27. (empower*) 79
28. MeSH DESCRIPTOR Self Care 479
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((selfcare or selfcaring)) 0
((self near0 (care or caring or manag*)) 840
((practical near5 (support* or help* or assist* or service* or intervention*))) 43
(((support* or help* or assist* or service* or intervention*) near5 practical)) 19
((repair* near3 (home or homes or hous*))) 3
(((home or homes or hous*) near3 repair*)) 3
((garden* or shop*)) 106
MeSH DESCRIPTOR social support 331
MeSH DESCRIPTOR housing 36
MeSH DESCRIPTOR public housing 5
MeSH DESCRIPTOR Nursing Homes 198
MeSH DESCRIPTOR Residential Facilities 33
((residential near3 (care or home or homes or hous* or accommodation* or living))) 194
(((care or home or homes or hous* or accommodation* or living) near3 residential)) 78
((supported near0 (care or home or homes or hous* or accommodation* or living))) 13
((sheltered near0 (care or home or homes or hous* or accommodation* or living))) 19
((retirement near0 (care or home or homes or hous* or accommodation* or living))) 4
(((community or social) near3 (home or homes or hous* or accommodation* or living))) 170
(((home or homes or hous* or accommodation* or living) near3 (community or social))) 275
(nursing home*) 597
(care home*) 133
((reable* or re-able*)) 3
MeSH DESCRIPTOR Intermediate Care Facilities 6
((intermediate near3 (care or caring))) 42
(((care or caring) near3 intermediate)) 16
((intermediate near3 (setting* or unit* or scheme* or service* or facility or facilities or residen* or home* or hous* or nur* or sector* or provision* or provider* or team* or model* or integrated or interdisciplinary or multidisciplinary or inter-disciplinary or multi-disciplinary or welfare or support* or help* or assistance or intervention*))) 48
(((setting* or unit* or scheme* or service* or facility or facilities or residen* or home* or hous* or nur* or sector* or provision* or provider* or team* or model* or integrated or interdisciplinary or multidisciplinary or inter-disciplinary or multi-disciplinary or welfare or support* or help* or assistance or intervention*) near3 intermediate)) 59
((local* near3 (integrat* or pioneer*))) 5
((integrat* or pioneer*) near3 local*)) 3
((integration near3 pioneer*)) 0
((pioneer* near3 integration)) 0
((personal* or individual*) near2 budget*)) 2
((budget* near3 (personal* or individual*))) 1
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(((home or homes or hous*) near3 (modif* or adapt* or assess* or safe* or hazard*))) 148

(((modif* or adapt* or assess* or safe* or hazard*) near3 (home or homes or hous*))) 137

(((social or community) near3 (prescrib* or prescrip*))) 11

(((prescrib* or prescrip*) near3 (social or community))) 12

(((social or community or non-medical or nonmedical) near0 referral*)) 4

((linking near0 (scheme* or program*))) 0

(((wellbeing or well-being) near0 program*))

(((exercis* or walk* or gym or gyms or cycle or cycling or swim* or aqua* or books or reading or bibliotherapy or art or arts or creativity or learning or education or activity or activities or volunteer* or voluntary or club or clubs or sport* or dancing or dance* or fish* or knit* or self-help or selfhelp or computer* or mutual aid) near3 (prescrib* or prescrip*))) 93

(((prescrib* or prescrip*) near3 (exercis* or walk* or gym or gyms or cycle or cycling or swim* or aqua* or books or reading or bibliotherapy or art or arts or creativity or learning or education or activity or activities or volunteer* or voluntary or club or clubs or sport* or dancing or dance* or fish* or knit* or self-help or selfhelp or computer* or mutual aid))) 61

(((exercis* or walk* or gym or gyms or cycle or cycling or swim* or aqua* or books or reading or bibliotherapy or art or arts or creativity or learning or education or activity or activities or volunteer* or voluntary or club or clubs or sport* or dancing or dance* or fish* or knit* or self-help or selfhelp or computer* or mutual aid) near3 referral*)) 43

((referral* near3 (exercis* or walk* or gym or gyms or cycle or cycling or swim* or aqua* or books or reading or bibliotherapy or art or arts or creativity or learning or education or activity or activities or volunteer* or voluntary or club or clubs or sport* or dancing or dance* or fish* or knit* or self-help or selfhelp or computer* or mutual aid))) 28

((signposting or sign-posting)) 2

MeSH DESCRIPTOR home care services 365

MeSH DESCRIPTOR home care services, hospital-based 66

MeSH DESCRIPTOR home health nursing 0

MeSH DESCRIPTOR home nursing EXPLODE ALL TREES 65

MeSH DESCRIPTOR homemaker services 1

((homecare or homecaring)) 15

(((home or homes) near3 (care or caring or service* or assistance or support*))) 1009

(((care or caring or service* or assistance or support*) near3 (home or homes))) 575

(((domicil* or outreach or out-reach) near0 (care or caring or service* or assistance or support*))) 49

((homemaker* or home-maker*)) 15

(hospital at home) 31

(((help or helping) near4 (home or homes))) 14

(((home or homes) near4 (help or helping))) 53

MeSH DESCRIPTOR Delivery of Health Care, Integrated 104

(((care or caring or service* or healthcare))) 147

(((care or caring or service* or healthcare) near3 integrated)) 137

(tailored near3 activit*) 10

(activit* near3 tailored) 6

#7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26 OR #27 OR #28 OR #29 OR #30 OR #31 OR #32 OR #33 OR #34 OR #35 OR #36 OR #37 OR #38 OR
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(((appointment*))) 391
(MeSH DESCRIPTOR Hospitalization) 1296
(((hospitalization* or hospitalisation* or hospitalised or hospitalized))) 4893
(((admission* or readmission* or admitted or readmitted))) 3296
(((placement* or care package* or support package*))) 767
(((place* or move* or moving) NEAR3 (home* or facility or facilities or residential))) 58
(((home* or facility or facilities or residential) NEAR3 (place* or move* or moving))) 49
(MeSH DESCRIPTOR length of stay) 2241
((hospital stay*)) 2377
(((bed NEAR3 day*))) 177
(((day* NEAR3 bed)) 24
(((days or time or length or duration*) NEAR3 (hospital* or home* or facility or facilities or residential))) 2354
(((hospital* or home* or facility or facilities or residential) NEAR3 (days or time or length or duration*))) 1800
(((days or time or length or duration*) NEAR3 (stay or stays or stayed))) 3974
(((stay or stays or stayed) NEAR3 (days or time or length or duration*))) 842
(((days or time or length or duration*) NEAR3 (discharge or discharged))) 279
(((discharge or discharged) NEAR3 (days or time or length or duration*))) 154
(#104 OR #105 OR #106 OR #107 OR #108 OR #110 OR #111 OR #112 OR #113 OR #114 OR #115 OR #116 OR #117 OR #118 OR #119 OR #120 OR #121 OR #122 OR #123 OR #124 OR #125 OR #126 OR #127 OR #128 OR #129 OR #130 OR #131 OR #132 OR #133 OR #134 OR #135 OR #136 OR #137 OR #138 OR #139 OR #140 OR #141 OR #142 OR #143) 28562
(MeSH DESCRIPTOR Quality-Adjusted Life Years) 3547
(((quality adjusted or adjusted life year*))) 5452
(((qaly* or qald* or qale* or qtime*))) 3274
(((illness state* or health state*))) 1475
(((hui or hui1 or hui2 or hui3)) 161
(((multiattribute* or multi attribute*))) 24
(((utility NEAR3 (score* or valu* or health* or cost* or measur* or disease* or mean or gain or gains or index*))))) 3524
(((score* or valu* or health* or cost* or measur* or disease* or mean or gain or gains or index*) NEAR3 utility)) 3607
(((utility loss* or disutilit*))) 215
(((utilities)) 1090
(((eq-5d or eq5d or eq-5 or eq5 or euro qual or euroqual or euro qual5d or euroqual5d or euro qol or euroqol or euro qol5d or euroqol5d or euro qual or euroqual or euro qual5d or euroqol5d or eur qol or eurqol or eur qol5d or eurqol5d or eur qual or eurqal or eurqual or eurqual5d or eurqal5d or euro* quality of life or european qol))) 795
(((euro* NEAR3 (5 d or 5d or 5 dimension* or 5dimension* or 5 domain* or 5domain*))))) 136
(((5 d or 5d or 5 dimension* or 5dimension* or 5 domain* or 5domain*) NEAR3 euro*))) 18
((sf*)) 791
(((short form* or shortform*))) 318
(((time trade off* or time tradeoff* or tto or timetradeoff*))) 376

Interface / URL: ProQuest

Database coverage dates: 1987 - current
Search date: 09/09/18
Retrieved records: 1837

Search strategy:

S1 MAINSUBJECT.EXACT.EXPLODE("Elderly people") 21437
S2 MAINSUBJECT.EXACT.EXPLODE("Older people") 18539
S3 MAINSUBJECT.EXACT.EXPLODE("Older women") 591
S4 MAINSUBJECT.EXACT("Older men") 199
S5 MAINSUBJECT.EXACT.EXPLODE("Elderly women") 856
S6 MAINSUBJECT.EXACT.EXPLODE("Elderly men") 398
S7 TI,AB(elder* or aging or geriatric* or gerontol* or "senior citizen*" or seniors or pensioner* or veteran* or sexagenarian* or septuagenarian* or octogenarian* or nonagenarian* or centenarian*) 35393
S8 TI,AB((old or older or aged) NEAR/3 (patient* or people* or person* or woman* or women* or man or mens or men or males or male* or female* or adult* or population* or resident* or client* or consumer* or "service user*" or community or communities or individual* or citizen*)) 51348
S9 TI,AB("aged care" or "old* age" or "oldest old" or "later life") 8314
S10 S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9 85220
S11 MAINSUBJECT.EXACT("Economic models") 2936
S12 MAINSUBJECT.EXACT("Cost effectiveness") 2634
S13 MAINSUBJECT.EXACT("Cost effective analysis") 84
S14 MAINSUBJECT.EXACT("Costs-Benefits") 51
S15 MAINSUBJECT.EXACT.EXPLODE("Monte Carlo method") 218
S16 TI,AB((economic* or cost*) NEAR/3 model*) 1807
S17 TI,AB("montero carlo" or markov) 1048
S18 TI,AB((econom* or cost or costs or costing or price or pricing) NEAR/3 (analysis or analyses or evaluation* or study or studies)) 7226
S19 TI,AB((economic* or cost) NEAR/3 (effect* or utilit* or benefit* or consequence* or outcome* or minimi*)) 9514
S20 TI,AB((economic* or cost or costs or value) NEAR/4 (decision* or threshold*)) 1436
S21 TI,AB(value NEAR/2 (money or monetary)) 709
S22 TI,AB("return on investment*" or ROI) 272
S23 TI,AB("budget impact*") 48
S24 TI,AB((decision* NEAR/2 (tree* or analy* or model*))) 2343
S25 S11 OR S12 OR S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21 OR S22 OR S23 OR S24 23181
S26 TI(resource*) 6174
S27 AB(resource* NEAR/4 (use* or usage or utilit* or utilis* or utiliz*)) 4723
S28 MAINSUBJECT.EXACT("Hospitalization") 6602
S29 MAINSUBJECT.EXACT.EXPLODE("Admissions") 1888
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90
Notes:

1. Results in sets S82, S83 and S84 were downloaded separately into an empty ENL. Duplicates were removed using default Endnote settings – 338 duplicates were identified and archived. 1837 records remained for retrieval.

2. The Proquest search strategy was initially developed to search all free text lines across the TI,AB,SU fields. The interface was unable to process the strategy or combine sets however. Proquest were contacted for help - they suggested trying to run the search without field limits. This was tried, but record numbers increased significantly. It was decided to limit the search lines to just the TI and AB fields. This meant that interface was able to process the strategy and was used for the final search. In doing so however, the potential increase in sensitivity which would have been gained by also including the SU field was lost.
A.9: Source: Social Services Abstracts (1979 - current)

Interface / URL: Proquest
Database coverage dates: 1979 - current
Search date: 09/09/18
Retrieved records: 490
Search strategy:

S1 MAINSUBJECT.EXACT("Elderly") 15531
S2 TI,AB(elder* or aging or geriatric* or gerontol* or "senior citizen"* or seniors or pensioner* or veteran* or sexagenarian* or septuagenarian* or octogenarian* or nonagenarian* or centenarian*) 29005
S3 TI,AB((old or older or aged) NEAR/3 (patient* or people* or person* or woman* or women* or man or mans or men or mens or male* or female* or adult* or population* or resident* or client* or consumer* or "service user"* or community or communities or individual* or citizen*)) 24035
S4 TI,AB("aged care" or "old* age" or "oldest old" or "later life") 5846
S5 S1 OR S2 OR S3 OR S4 47746
S6 MAINSUBJECT.EXACT("Economic Models") 406
S7 MAINSUBJECT.EXACT("Cost-Benefit Analysis") 380
S8 MAINSUBJECT.EXACT("Markov Process") 3
S9 TI,AB((economic* or cost*) NEAR/3 model*) 747
S10 TI,AB("monte carlo" or markov) 100
S11 TI,AB((econom* or cost or costs or costing or price or pricing) NEAR/3 (analysis or analyses or evaluation* or study or studies)) 2711
S12 TI,AB((economic* or cost) NEAR/3 (effect* or utilit* or benefit* or consequence* or outcome* or minimi*)) 3904
S13 TI,AB((economic* or cost or costs or value) NEAR/4 (decision* or threshold*)) 496
S14 TI,AB(value NEAR/2 (money or monetary)) 111
S15 TI,AB("return on investment" or ROI) 47
S16 TI,AB("budget impact"*) 4
S17 TI,AB(decision* NEAR/2 (tree* or analy* or model*)) 886
S18 S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16 OR S17 8139
S19 TI(resource*) 2838
S20 AB(resource* NEAR/4 (use* or usage or utilit* or utilisc* or utilisz*)) 2062
S21 MAINSUBJECT.EXACT("Hospitalization") 1133
S22 MAINSUBJECT.EXACT("Admissions") 385
S23 MAINSUBJECT.EXACT("Placement") AND (MAINSUBJECT.EXACT("Nursing Homes") OR MAINSUBJECT.EXACT("Residential Institutions")) 250
S24 TI,AB(visit or visits or visited) 3686
S25 TI,AB(appointment*) 687
S26 TI,AB(hospitalization* or hospitalisation* or hospitalised or hospitalized) 2485
S27 TI,AB(admission* or readmission* or admitted or readmitted) 3982
S28 TI,AB(placement* or "care package"* or "support package"*) 5997
S29 TI,AB((place* or move* or moving) NEAR/3 (home* or facility or facilities or residential)) 2334
S30 TI,AB("hospital stay") 199
S31 TI,AB(bed NEAR/3 day*) 35
S32 TI,AB((days or time or length or duration*) NEAR/3 (hospital* or home* or facility or facilities or residential)) 955
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S63  S50 AND S62  213
S64  S51 AND S62  967
S65  S52 AND S62  88
S66  pd(20080101-20181231)  136450
S67  S63 AND S66  98
S68  S64 AND S66  419
S69  S65 AND S66  49
S70  LA(ENGLISH)  396628
S71  S67 AND S70  98
S72  S68 AND S70  417
S73  S69 AND S70  47

Notes:
1. Results in sets S71, S72 and S73 were downloaded separately into an empty ENL. Duplicates were removed using default Endnote settings – 70 duplicates were identified and archived. 490 remained for retrieval.
2. The Proquest search strategy was initially developed to search all free text lines across the TI,AB,SU fields. The interface was unable to process the strategy or combine sets however. Proquest were contacted for help – they suggested trying to run the search without field limits. This was tried, but record numbers increased significantly. It was decided to limit the search lines to just the TI and AB fields. This meant that interface was able to process the strategy and was used for the final search. In doing so however, the potential increase in sensitivity which would have been gained by also including the SU field was lost.

A.10:  Source: The Campbell Collaboration Library
Interface / URL: https://www.campbellcollaboration.org/library.html
Database coverage dates: Information not found
Search date: 10/09/18
Retrieved records: 4
Search strategy:

Searched using the advanced search interface. Terms were entered in the ‘Keyword’ search box. The search was restricted to ‘Publication date’ 2008-01-01 to 2018-09-10. Returned results were assessed online by the information specialist for focus on older adults. Relevant results were retrieved.

7.1.3 APPENDIX AC: Search strategies for targeted web searches

A.1: **Source: Public Health England**
Interface / URL: https://www.gov.uk/government/organisations/public-health-england
Database coverage dates: n/a
Search date: 10/09/18
Retrieved records: 22
Search strategy:

The following searches were conducted. Records were selected for retrieval by the information specialist based on a rapid appraisal of their relevance

1. The website section titled “Publications” was browsed for relevant studies, selecting “Social care” from the “Policy area” drop-down menu.
2. The website section titled “Publications” was browsed for relevant studies, selecting “Pensions and Aging Society” from the “Policy area” drop-down menu.
3. The website section titled “Publications” was browsed for relevant studies, restricting results to those including the following terms, using the ‘contains’ limiting feature: elderly, older.

22 records were retrieved

A.2: **Source: National Institute for Health and Care Excellence**
Interface / URL: https://www.nice.org.uk/
Database coverage dates: n/a
Search date: 10/09/18
Retrieved records: 10
Search strategy:

The following searches were conducted. Records were selected for retrieval by the information specialist based on a rapid appraisal of their relevance

1. The website was browsed for relevant guidance related to older people by selecting NICE Guidance – Population groups – Older people.
2. The website was browsed by selecting NICE Guidance – Service delivery, organisation and staffing - Adult social services.

10 records were retrieved

A.3: **Source: Social Care Institute for Excellence (SCIE)**
Interface / URL: https://www.scie.org.uk/
Database coverage dates: n/a
Search date: 12/09/18
Retrieved records: 58
Search strategy:

The Prevention and Wellbeing research database (https://www.scie.org.uk/prevention/research-practice/) was limited to the subject "older people".
Records were selected for retrieval by the information specialist based on a rapid appraisal of their relevance – only records that were obviously and explicitly relevant were selected.

The SCIE resources and services database was also browsed (https://www.scie.org.uk/atoz/), with the results limited to the followed resource types:

- Case studies
- Evaluation report
- Knowledge review
- Position paper
- Practice example
- Report
- Research briefing

As above, records were selected by the information specialist based on a rapid appraisal of their relevance – only records that were obviously and explicitly relevant were selected.

58 records were retrieved.

A.4: **Source: Personal Social Services Research Unit (PSSRU)**

Interface / URL: https://www.pssru.ac.uk/

Database coverage dates: n/a

Search date: 24/09/18

Retrieved records: 104

Search strategy:

The following searches were conducted. Records were selected for retrieval by the information specialist based on a rapid appraisal of their relevance

1. The website section “Publications” was browsed for relevant studies.
2. The publications database was accessed at: https://www.pssru.ac.uk/publications/. The following searches were conducted separately across the database. Terms were entered in the ‘Search for’ box. Results with an older population focus based on rapid assessment by the information specialist were retrieved. Results with a publication date earlier than 2008 onwards were not retrieved.

- elderly = 1 result retrieved
- aged = 1 result retrieved
- aging = 0 results retrieved
- older = 99 results retrieved
- geriatric = 0 results retrieved
- old age = 3 results retrieved
- oldest old = 0 results retrieved
- later life = 0 results retrieved
- senior citizen = 0 results retrieved
- seniors = 0 results retrieved
- pensioner = 0 results retrieved
A.5:  **Source: Economics of Social and Health Care Research Unit (ESHCRU)**
Interface / URL: http://eshcru.ac.uk/
Database coverage dates: n/a
Search date: 25/09/18
Retrieved records: 3
Search strategy:

The website section “Publications” was browsed for relevant studies.  
http://eshcru.ac.uk/publications/index.htm

Records were selected for retrieval by the information specialist based on a rapid appraisal of their relevance.

3 results retrieved

A.6:  **Source: EPPI-Centre**
Interface / URL: https://eppi.ioe.ac.uk/cms/
Database coverage dates: n/a
Search date: 06/09/18
Retrieved records: 4
Search strategy:

The following searches were conducted. Records were selected for retrieval by the information specialist based on a rapid appraisal of their relevance.

1. The website section for “Publications” was browsed for relevant studies at https://eppi.ioe.ac.uk/cms/Default.aspx?tabid=56 = 1 results retrieved
2. Chronological list of systematic reviews browsed at: https://eppi.ioe.ac.uk/cms/Default.aspx?tabid=62 = 3
3. List of EPPI-Centre primary research and other forms of research synthesis browsed at: https://eppi.ioe.ac.uk/cms/Default.aspx?tabid=3501 = 0 results retrieved

A.7:  **Source: Age UK**
Interface / URL: https://www.ageuk.org.uk
Database coverage dates: n/a
Search date: 26/09/18
Retrieved records: 44
Search strategy:

The following searches were conducted. Records were selected for retrieval by the information specialist based on a rapid appraisal of their relevance.

1. The website sections for “Publications” and “Evaluation reports” were browsed for relevant studies at https://www.ageuk.org.uk/our-impact/policy-research/publications/
2. Browsed Reports and Briefings, Consultation responses and submissions.

44 results retrieved
A.8: Source: Joseph Rowntree Foundation
Interface / URL: https://www.jrf.org.uk/
Database coverage dates: n/a
Search date: 26/09/18
Retrieved records: 14
Search strategy:

The following searches were conducted. Records were selected for retrieval by the information specialist based on a rapid appraisal of their relevance.

1. The website section for “Reports” was browsed for relevant studies at https://www.jrf.org.uk/reports
2. Navigated to People / Older People and browsed content.

14 results were retrieved

A.9: Source: Association of Directors of Adult Social Services (ADASS)
Interface / URL: https://www.adass.org.uk/home
Database coverage dates: n/a
Search date: 26/09/18
Retrieved records: 3
Search strategy:

The following search was conducted. Records were selected for retrieval by the information specialist based on a rapid appraisal of their relevance.

The website section for “Publications” were browsed for relevant studies at https://www.adass.org.uk/policy-documents

3 results were retrieved.

A.10: Source: King’s Fund
Interface / URL: https://www.kingsfund.org.uk/
Database coverage dates: n/a
Search date: 26/09/18
Retrieved records: 18
Search strategy:

The following searches were conducted. Records were selected for retrieval by the information specialist based on a rapid appraisal of their relevance.

1. The Topic section "Older people" was browsed for relevant studies
2. The Publications Section was browsed for "Reports" in the Topic of "Adult Social Care"

18 results were retrieved.
A.11: Source: Nuffield Trust
Interface / URL: https://www.nuffieldtrust.org.uk/
Database coverage dates: n/a
Search date: 26/09/18
Retrieved records: 11
Search strategy:

The following search was conducted. Records were selected for retrieval by the information specialist based on a rapid appraisal of their relevance.

The website section for “Research” was browsed for relevant studies at www.nuffieldtrust.org.uk/research. Publications were filtered using the topic drop down menu – “Older and complex care” was selected.

11 results were retrieved.

A.12: Source: Centre for Ageing and Development Research Ireland (CARDI)
Interface / URL: http://www.cardi.ie/
Database coverage dates: n/a
Search date: 26/09/18
Retrieved records: 1
Search strategy:

The following search was conducted. Records were selected for retrieval by the information specialist based on a rapid appraisal of their relevance.

The website sections for “CARDI Publications” and "Projects" were browsed for relevant studies at www.cardi.ie/publications/cardi and www.cardi.ie/research-projects/all?keys=&page=0%2C7.

1 result was retrieved

A.13: Source: Institute for Research and Innovation in Social Services (IRISS)
Interface / URL: https://www.iriss.org.uk/
Database coverage dates: n/a
Search date: 26/09/18
Retrieved records: 1
Search strategy:

The following searches were conducted. Records were selected for retrieval by the information specialist based on a rapid appraisal of their relevance.

1. The website section for “Case studies” was browsed for relevant studies at https://www.iriss.org.uk/resources/case-studies
2. The website section for “Reports” was browsed for relevant studies at https://www.iriss.org.uk/resources/reports
A.14: Source: NIHR School for Social Care Research (SSCR)
Interface / URL: https://www.sscr.nihr.ac.uk/
Database coverage dates: n/a
Search date: 25/09/18
Retrieved records: 5
Search strategy:

The following searches were conducted. Records were selected for retrieval by the information specialist based on a rapid appraisal of their relevance.

1. The website section “Our Research” was browsed for relevant studies under the headings "Scoping Reviews" and "Projects".
2. The website section "Knowledge and Resources" was also browsed – however, this section of the website seemed to be very "buggy" and many of the results could not be clicked on for further information beyond the title. These results were quickly scanned by title only for potential relevance.

5 results were selected
7.1.4 Appendix AD: Targeted gap filling searches

A1: Source: EconLit
Interface / URL: Ovid
Database coverage dates: 1886 to present
Search date: 13/06/19
Search strategy:

1. (elder$ or aging or geriatric$ or gerontol$ or senior citizen$ or seniors or pensioner$ or veteran$ or sexagenarian$ or septuagenarian$ or octogenarian$ or nonagenarian$ or centenarian$).ab,sh,hw,ti. (16038)
2. ((old or older or aged) adj3 (patient$1 or people$ or person$ or woman$ or women$ or man or mans or men or mens or male$1 or female$ or adult$ or population$ or resident$ or client$ or consumer$ or service user$ or community or communities or individual$ or citizen$)).ab,sh,hw,ti. (4744)
3. (aged care or old$ age or oldest old or later life).ab,sh,hw,ti. (2789)
4. 1 or 2 or 3 (20229)
5. (((economic$ or cost$) adj3 model$) or (monte carlo or markov) or ((econom$ or cost or costs or costing or price or pricing) adj3 (analysis or analyses or evaluation$1 or study or studies)) or ((economic$ or cost) adj3 (effect$ or utilit$ or benefit$ or consequence$ or outcome$1 or minimi$)) or ((economic$ or cost or costs or value) adj4 (decision$1 or threshold$)) or (value adj2 (money or monetary)) or (return on investment or ROI) or budget impact$ or (decision$ adj2 (tree$ or analy$ or model$))).mp. or (resource$1 adj4 (use$1 or usage or utilit$ or utilis$ or utiliz$)).ab,sh,hw,ti. [mp=heading words, abstract, title, country as subject] (215604)
6. resource$1.ti. (15292)
7. 5 or 6 (227673)
8. (quality adjusted or adjusted life year$ or (qaly$ or qald$ or qale$ or qtime$) or (illness state$1 or health state$1) or (hui or hui1 or hui2 or hui3) or (multiattribute$ or multiattribute$) or (utility adj3 (score$1 or valu$ or health$ or cost$ or measur$ or disease$ or mean or gain or gains or index$)) or (utility loss$ or disutilit$) or utilities or (eq-5d or eq5d or eq-5 or eq5 or euro qual or euroqual or euroqual5d or euro qol or euroqol or euro qol5d or euroqol5d or euro qol or euroqol5d or euro qol or euroqol5d or euro qol5d or eur?qual or eur?qual5d or eur?quality of life or european qol) or (euro$ adj3 (5 d or 5d or 5 dimension$ or 5dimension$ or 5 domain$ or 5domain$)) or sf$ or (short form$ or shortform$)).mp. or (time trade off$1 or time tradeoff$1 or tto or timetradeoff$1).ab,sh,hw,ti. [mp=heading words, abstract, title, country as subject] (32081)
The older adults' NHS and social care return on investment tool

(visit or visits or visited or appointment$ or (admission$1 or readmission$1 or admitted or readmitted) or (placement$ or care package$ or support package$) or ((place$ or move$ or moving) adj3 (home$1 or facility or facilities or residential)) or (bed adj3 day$1) or ((days or time or length or duration$1) adj3 (home$1 or facility or facilities or residential)) or ((days or time or length or duration$1) adj3 (stay or stays or stayed or placement$)).mp. or ((days or time or length or duration$1) adj3 (discharge or discharged or home or homes)).ab,sh,hw,ti. [mp=heading words, abstract, title, country as subject] (9231)

7 or 8 or 9 (261187)

(telecare or "assist$ technolog$").ab,sh,hw,ti. (35)

telerehab$.ab,sh,hw,ti. (0)

11 or 12 (35)

(integrated adj (work$ or care$)).ab,sh,hw,ti. (45)

"integrated care team$".ab,sh,hw,ti. (0)

(interprofessional adj2 work$).ab,sh,hw,ti. (0)

interprofessional team$.ab,sh,hw,ti. (0)

(interdisciplinary team or multidisciplinary team or MDT).ab,sh,hw,ti. (38)

((co-locate$ or colocate$) adj professional$).ab,sh,hw,ti. (0)

multidisciplinary service$.ab,sh,hw,ti. (2)

(interdisciplin$ or inter-disciplin$ or interprofession$ or inter-profession$ or multidisciplin$ or multi-disciplin$ or multiprofession$ or multi-profession$).mp. and (collaborat$ or cooperat$ or co-operat$).ab,sh,hw,ti. [mp=heading words, abstract, title, country as subject] (342)

14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 (424)

(patient adj3 (transition$ or discharge$ or transfer$)).ab,sh,hw,ti. (55)

(community or communities or home$).ab,sh,hw,ti. (53421)

23 and 24 (6)

eyear support$ discharge$.ab,sh,hw,ti. (0)

25 or 26 (6)

13 or 22 or 27 (465)

4 and 10 and 28 (11)

4 and 10 and 28 (11)

limit 30 to yr="2008 -Current" (9)

(national health service$ or nhs$).ab,sh,hw,ti. (819)

english.ab,sh,hw,ti. (102897)

(england$ or northern ireland$ or northern irish$ or scotland$ or scottish$ or wales or welsh$).ab,sh,hw,ti. (9705)

(britain$ or british$ or uk or united kingdom$).ab,sh,hw,ti. (41899)

(gb or "g.b." or "u.k").mp. [mp=heading words, abstract, title, country as subject] (67819)

32 or 33 or 34 or 35 or 36 (180342)

31 and 37 (1)

from 31 keep 1 (1)
The older adults' NHS and social care return on investment tool

A2: Source: Ovid MEDLINE(R) and Epub Ahead of Print, In-Process & Other Non-Indexed Citations and Daily

Interface / URL: Ovid
Database coverage dates: 1946 to present
Search date: 8/6/19
Search strategy:

1. elder$ or aging or geriatric$ or gerontol$ or senior citizen$ or seniors or pensioner$ or veteran$ or sexagenarian$ or septuagenarian$ or octogenarian$ or nonagenarian$ or centenarian$.ab,hw,sh,ti. (637333)
2. ((old or older or aged) adj3 (patient$1 or people$ or person$ or woman$ or women$ or man or mans or men or mens or male$1 or female$ or adult$ or population$ or resident$ or client$ or consumer$ or service user$ or community or communities or individual$ or citizen$)).ab,hw,sh,ti. (3394240)
3. (aged care or old$ age or oldest old or later life).ab,hw,sh,ti. (78201)
4. exp Aged/ (2950355)
5. 1 or 2 or 3 or 4 (3867871)
6. (chronic obstructive pulmonary disease or COPD).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] (58140)
7. exp Pulmonary Disease, Chronic Obstructive/ (51742)
8. 6 or 7 (78418)
9. (self adj2 (management or managing* or manage*)).ab,hw,sh,ti. (18786)
10. (self adj2 (care$ or caring)).ab,hw,sh,ti. (43175)
11. exp Self Care/ (51973)
12. 9 or 10 or 11 (73055)
13. (patient adj3 (transition* or discharge$ or transfer$)).ab,hw,sh,ti. (51914)
14. "early support$ discharge$".ab,hw,sh,ti. (141)
15. (community or communities or home$).ab,hw,sh,ti. (1083313)
16. patient discharge/ or patient transfer/ (34173)
17. 13 and 15 (11650)
18. 14 or 16 or 17 (36416)
19. (telecare or "assistive technolog$").ab,hw,sh,ti. (2422)
20. telemedicine/ or telerehabilitation/ (19763)
21. 19 or 20 (21698)
22. (integrated adj (working or care)).ab,hw,sh,ti. (3771)
23. "integrated care team$".ab,hw,sh,ti. (40)
24. (interprofessional adj2 work$).ab,hw,sh,ti. (476)
25. "interprofessional team".ab,hw,sh,ti. (1400)
26. (interdisciplinary team or multidisciplinary team or MDT).ab,hw,sh,ti. (17689)
27. ((co-locate$ or colocate$) adj professional$).ab,hw,sh,ti. (0)
28. multidisciplinary service$.ab,hw,sh,ti. (183)
The older adults' NHS and social care return on investment tool

( interdisciplinary or inter-disciplin$ or inter-profession$ or inter-profession$.mp. and (collaborat$ or cooperat$ or co-operat$).ab,hw,sh,ti. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] (32812) (interdisciplin$ or inter-disciplin$ or inter-profession$ or inter-profession$.mp. and (collaborat$ or cooperat$ or co-operat$).ab,hw,sh,ti. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] (32812) (interdisciplin$ or inter-disciplin$ or inter-profession$ or inter-profession$.mp. and (collaborat$ or cooperat$ or co-operat$).ab,hw,sh,ti. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] (31421) (interdisciplin$ or inter-disciplin$ or inter-profession$ or inter-profession$.mp. and (collaborat$ or cooperat$ or co-operat$).ab,sh,ti. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] (24420) 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 (53065) 18 or 21 or 33 (109965) (((economic$ or cost$) adj3 model$) or (monte carlo or markov)).ab,hw,sh,ti. (98386) ((econom$ or cost or costs or costing or price or pricing) adj3 (analysis or analyses or evaluation$1 or study or studies)).ab,hw,sh,ti. (154493) ((economic$ or cost) adj3 (effect$ or utilit$ or benefit$ or consequence$ or outcome$1 or minimi$)).ab,hw,sh,ti. (197397) ((economic$ or cost or costs or value) adj4 (decision$1 or threshold$)).ab,hw,sh,ti. (17689) (value adj2 (money or monetary)).ab,hw,sh,ti. (2184) (return on investment or ROI).ab,hw,sh,ti. (10577) budget impact$.ab,hw,sh,ti. (1254) (decision$ adj2 (tree$ or analy$ or model$)).ab,hw,sh,ti. (40389) (resource$1 adj4 (use$1 or usage or utilit$ or utilis$ or utiliz$)).ab,hw,sh,ti. (41420) exp Cost-Benefit Analysis/ (76696) models, economic/ (9407) Economics/ (27046) 35 or 36 or 37 or 38 or 39 or 40 or 41 or 42 or 43 or 44 or 45 or 46 (442309)
The older adults' NHS and social care return on investment tool

(visit or visits or visited).ab,hw,sh,ti. (190965)
appointment$.ab,hw,sh,ti. (27061)
(admission$1 or readmission$1 or admitted or readmitted).ab,hw,sh,ti. (370039)
(placement$ or care package$ or support package$).ab,hw,sh,ti. (123986)
((place$ or move$ or moving) adj3 (home$1 or facility or facilities or residential$)).ab,hw,sh,ti. (5218)
((days or time or length or duration$1) adj3 (home$1 or facility or facilities or residential$)).ab,hw,sh,ti. (5600)
((days or time or length or duration$1) adj3 (stay or stays or stayed or placement$)).ab,hw,sh,ti. (139520)
((days or time or length or duration$1) adj3 (discharge or discharged or home or homes)).ab,hw,sh,ti. (21310)
48 or 49 or 50 or 51 or 52 or 53 or 54 or 55 (789865)
(quality adjusted or adjusted life year$).ab,hw,sh,ti. (18859)
(qaly$ or qald$ or qale$ or qtime$).ab,hw,sh,ti. (9511)
(illness state$1 or health state$1).ab,hw,sh,ti. (5946)
(hui or hui1 or hui2 or hui3).ab,hw,sh,ti. (1377)
(multiattribute$ or multi attribute$).ab,hw,sh,ti. (810)
(utility adj3 (score$1 or valu$ or health$ or cost$ or measur$ or disease$ or mean or gain or gains or index$)).ab,hw,sh,ti. (13589)
(utility loss$ or disutility$).ab,hw,sh,ti. (506)
utilities.ab,hw,sh,ti. (6489)
(eq-5d or eq5d or eq-5 or eq5 or euro qual or euroqual or euro qual5d or euroqual5d or euro qol or euroqol or euro qol5d or euroqol5d or euro quol or euroquol or euro quol5d or euroquol5d or euro qol or euroqol or eur qol5d or eur qol) (9916)
(euro$ adj3 (5 d or 5d or 5 dimension$ or 5dimension$ or 5 domain$ or 5domain$)).ab,hw,sh,ti. (3443)
(sf$ or short form$ or shortform$).ab,hw,sh,ti. (110169)
(time trade off$1 or time tradeoff$1 or tto or timetradeoff$1).ab,hw,sh,ti. (1774)
exp "Quality of Life"/ (176843)
exp quality-adjusted life years/ (11065)
57 or 58 or 59 or 60 or 61 or 62 or 63 or 64 or 65 or 66 or 67 or 68 or 69 or 70 (300285)
47 or 56 or 71 (1446143) all outcomes
5 and 8 (32007) elderly and COPD
12 and 73 (563) self management AND elderly and COPD
72 and 74 (303) all COPD with outcomes
5 and 34 and 72 (13481) all older pop and out of hosp
exp Great Britain/ (353159)
(national health service* or nhs*).ti,ab,in. (172424)
(english not ((published or publication* or translat* or written or language* or speak* or literature or citation*)) adj5 english)).ti,ab (91656)
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A3: Source: Social Policy and Practice<201904>
Interface / URL: Ovid
Database coverage dates: 1890s to Present.
Search date: 20/06/19
Search strategy:

1. (elder$ or aging or geriatric$ or gerontol$ or senior citizen$ or seniors or pensioner$ or veteran$ or sexagenarian$ or septuagenarian$ or octogenarian$ or nonagenarian$ or centenarian$).ab,de,hw,ti. (38470)

2. ((old or older or aged) adj3 (patient$1 or people$ or person$ or woman$ or women$ or man or mens or men or mens or male$1 or female$ or adult$ or population$ or resident$ or client$ or consumer$ or service user$ or community or communities or individual$ or citizen$)).ab,de,hw,ti. (87403)

3. (aged care or old$ age or oldest old or later life).ab,de,hw,ti. (7758)

4. 1 or 2 or 3 (92324) elderly population

5. (((economic$ or cost$) adj3 model$) or (monte carlo or markov) or (((econom$ or cost or costs or costing or price or pricing) adj3 (analysis or analyses or evaluation$1 or study or studies)) or (((economic$ or cost) adj3 (effect$ or utilit$ or benefit$ or consequence$ or outcome$1 or minimi$)) or (((economic$ or cost or costs or value) adj4 (decision$1 or threshold$)) or (value adj2 (money or monetary)) or (return on investment or ROI) or budget impact$) or (decision$ adj2 (tree$ or analy$ or model$))).mp. or (resource$1 adj4 (use$1 or usage or utilit$ or utilis$ or utiliz$)).ab,de,hw,ti. [mp=abstract, title, publication type, heading word, accession number] (9195)

6. resource$1.m_titl. (1883)

7. 5 or 6 (10847) economics/ROI

8. (quality adjusted or adjusted life year$ or (qaly$ or qald$ or qale$ or qtime$) or (illness state$1 or health state$1) or (hui or hui1 or hui2 or hui3) or (multiattribute$ or multi attribute$) or (utility adj3 (score$1 or valu$ or health$ or cost$ or measur$ or disease$ or mean or gain or gains or index$)) or (utility loss$ or disutility$) or utilities or (eq-5d or eq5d or eq-5 or eq5 or euro qual or euroqual or euro qual5d or euroqual5d or euro qol or euroqol or euro qol5d or euroqol5d or euro qol5d or euro qol5d or euro qol5d or euro qol or euro?qul or euro?qul5d or euro$ quality of life or european qol) or (euro$ adj3 (5 d or 5d or 5 dimension$ or 5dimension$ or 5 domain$ or 5domain$)) or sf$ or (short form$ or shortform$)).mp. or (time trade off$1 or time tradeoff$1 or tto or timetradeoff$1).ab,de,hw,ti. [mp=abstract, title, publication type, heading word, accession number] (1240) Quality of Life

9. (visit or visits or visited or appointment$ or (admission$1 or readmission$1 or admitted or readmitted) or (placement$ or care package$ or support package$) or (place$ or move$ or moving) adj3 (home$1 or facility or facilities or residential)) or (bed adj3 day$1) or ((days or time or length or duration$1) adj3 (home$1 or facility or facilities or residential)) or ((days or time or length or duration$1) adj3 (stay or stays or stayed or placement$)))mp. or ((days or time or length or duration$1) adj3 (discharge or
discharged or home or homes)).ab,de,hw,ti. [mp=abstract, title, publication type, heading word, accession number] (17795) utilisation/stays

7 or 8 or 9 (28827) all outcomes
11 (telecare or "assist$ technolog$",).ab,de,hw,ti. (1965)
telerehab$.ab,de,hw,ti. (1)
11 or 12 (1966) telecare
14 (integrated adj (work$ or care$)).ab,de,hw,ti. (2048)
"integrated care team$".ab,de,hw,ti. (9)
16 (interprofessional adj2 work$).ab,de,hw,ti. (145)
interprofessional team$.ab,de,hw,ti. (93)
18 (interdisciplinary team or multidisciplinary team or MDT).ab,de,hw,ti. (512)
19 ((co-locate$ or colocate$) adj professional$).ab,de,hw,ti. (0)
multidisciplinary service$.ab,de,hw,ti. (2501)
21 (interdisciplin$ or inter-disciplin$ or interprofession$ or inter-profession$ or multidisciplin$ or multi-disciplin$ or multiprofession$ or multi-profession$).mp. and (collaborat$ or cooperat$ or co-operat$).ab,de,hw,ti. [mp=abstract, title, publication type, heading word, accession number] (2284)
14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 (6036) inter disciplinary/MDT
23 (patient adj3 (transition$ or discharge$ or transfer$)).ab,de,hw,ti. (186)
24 (community or communities or home$).ab,de,hw,ti. (106802)
25 23 and 24 (115)
26 early support$ discharge$.ab,de,hw,ti. (16)
27 25 or 26 (131) hosp discharge
28 13 or 22 or 27 (8048) All interventions
29 4 and 10 and 28 (506) P+I+O
30 4 and 10 and 28 (506)
31 limit 30 to yr="2008 -Current" (351) UK and RoW
32 (national health service$ or nhs$).ab,de,hw,ti. (11658)
33 english.ab,de,hw,ti. (5275)
34 (england$ or northern ireland$ or northern irish$ or scotland$ or scottish$ or wales or welsh$).ab,de,hw,ti. (64067)
35 (britain$ or british$ or uk or united kingdom$).ab,de,hw,ti. (107221)
36 (gb or "g.b." or "u.k").mp. [mp=abstract, title, publication type, heading word, accession number] (22642)
37 32 or 33 or 34 or 35 or 36 (145488) my quick UK filter
38 31 and 37 (157) “UK” only 2008 on
7.2 Appendix B: PRISMA 2009 flow diagram: PHE social care ROI tool – stages 1, 2, 4 & 5

Records identified through database searching
Stage 1: Ascot & ICECAP = 754
Stage 2: EE, RU & U = 8118

Records after duplicates removed (n = 7154)
Records excluded at first pass (n = 2042)
Remaining records (n = 7154 – 2042)

Records screened:
Databases (n = 5112)
Other sources (n = 329)

Excluded (from databases), with reasons (n = 242)
Ineligible intervention 73
Ineligible outcomes 28
Ineligible setting 3
Ineligible population 4
Insufficient cost information 57
Ineligible study design 11
Multiple interventions 3
No evidence of impact 25
Pre 2010 38

Included studies database searches (n = 112)
Included studies – other sources (n = 38)
TOTAL included (n = 150)
## 7.3 Appendix C: Data extraction fields

<table>
<thead>
<tr>
<th>Heading</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preliminary data extraction</strong></td>
<td></td>
</tr>
<tr>
<td>Bibliographic details</td>
<td>Author, title, publication details</td>
</tr>
<tr>
<td>Intervention</td>
<td>What is the intervention?</td>
</tr>
<tr>
<td>Category</td>
<td>Selected from a drop-down list of categories and sub-categories</td>
</tr>
<tr>
<td>Comparator</td>
<td>What is the intervention being compared to?</td>
</tr>
<tr>
<td>Study design</td>
<td>e.g. RCT, cohort study</td>
</tr>
<tr>
<td>Age of study population</td>
<td>Describe age of patients/service users in 'study'</td>
</tr>
<tr>
<td>Country</td>
<td>What country did the intervention take place in?</td>
</tr>
<tr>
<td>Scale of intervention</td>
<td>e.g. community singing in one community would be classed as small; Extracare housing would be large</td>
</tr>
<tr>
<td>Payer</td>
<td>Which organisation pays for the intervention e.g. health/social care/joint funding?</td>
</tr>
<tr>
<td>Beneficiary</td>
<td>Which organisation benefits from the intervention? Where do the benefits fall?</td>
</tr>
<tr>
<td>Results</td>
<td>Brief summary of what the evidence is saying/which outcomes are measured? i.e. patient outcomes, resource use</td>
</tr>
<tr>
<td>Strength of evidence</td>
<td>High/medium/low - overall assessment of how good the evidence is based on study design and results</td>
</tr>
<tr>
<td>Notes</td>
<td>Any other important details</td>
</tr>
<tr>
<td><strong>Full data extraction</strong></td>
<td></td>
</tr>
<tr>
<td>Intervention</td>
<td>in more detail (who, where, when)</td>
</tr>
<tr>
<td>Comparator</td>
<td>in more detail (who, where, when)</td>
</tr>
<tr>
<td>Results</td>
<td>Results for each outcome. These will be presented showing effect size and confidence intervals whenever possible</td>
</tr>
<tr>
<td>Costs (inputs)</td>
<td>: inputs required for the intervention - need detail here</td>
</tr>
<tr>
<td>Costs (outputs)</td>
<td>: value of outputs - need detail here</td>
</tr>
<tr>
<td>Comments on availability of cost information</td>
<td>- is there enough information to do an ROI calculation? If not, is there the potential to get the information and how much effort could be needed to get it (e.g. follow up other references, contact authors etc).</td>
</tr>
<tr>
<td>Number of participants</td>
<td>(total number of participants included in the study, number of participants in each arm, with inclusion and exclusion criteria, the numbers of participants who started and completed the study)</td>
</tr>
<tr>
<td>Details of study</td>
<td>(type of economic analysis, data sources, time horizon, discount rates, perspective and measures of uncertainty)</td>
</tr>
<tr>
<td>limitations</td>
<td>Any limitations identified by authors</td>
</tr>
<tr>
<td>Conclusion</td>
<td>&quot; - do we think this record has information that could be used in the ROI tool?</td>
</tr>
<tr>
<td>Additional comments</td>
<td>e.g. source of funding, evidence gaps, further research identified, how good this record is when compared to others on the same type of intervention.&quot;</td>
</tr>
</tbody>
</table>
## Appendix D: Interventions assessment summary

<table>
<thead>
<tr>
<th>Intervention type (author)</th>
<th>Intervention details</th>
<th>Costs detail available?</th>
<th>Comments</th>
<th>Take forward?</th>
<th>Population information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local area co-ordination (Thurrock Council, 2014)</td>
<td>Information, support and (for some) longer term support for relationships and planning for future.</td>
<td>Some</td>
<td>Lack of robust methods to the collection and presentation of data on impacts.</td>
<td>No</td>
<td>Age 18-98 years</td>
</tr>
<tr>
<td>Patient / community navigators (Galbraith et al 2017)</td>
<td>Patient navigators working in community on transitional care in USA. Provide hospital visits and outreach visits for 30 days post discharge. The intervention protocol goal was one hospital visit and 3 completed calls.</td>
<td>Yes</td>
<td>Good quality evidence. Intervention based in USA.</td>
<td>Yes</td>
<td>Majority of benefits in over 60s</td>
</tr>
<tr>
<td>Patient / community navigators (Watson, P; Shucksmith, J. 2015)</td>
<td>Partnership of voluntary sector agencies and the statutory sector to support vulnerable people living in the borough of Redcar &amp; Cleveland. Community Agents meet a wide range of needs including: Befriending; Benefits Advice; Form Filling; Social Activity; Transport; Shopping; Odd jobs/Maintenance; General support and information.</td>
<td>No</td>
<td>There is no data on costs. This is a summary report and it is not clear how to access a full report, nor if that includes cost data.</td>
<td>Maybe</td>
<td>Majority &gt; 60 years</td>
</tr>
<tr>
<td>Bundle of voluntary and community sector (VCS) services aimed at patients with long-term conditions (Centre for Regional Economic and Social Research, 2014)</td>
<td>A voluntary and community sector (VCS) liaison service, referring to other funded services. The 5 most common types of funded services referred to were information and advice, community activity, physical activities, befriending and enabling.</td>
<td>Some</td>
<td>Good study, directly applicable. Minor limitations due to estimates used in calculations.</td>
<td>Yes</td>
<td>Over 60s</td>
</tr>
<tr>
<td>Befriending (Fitzsimmons 2010)</td>
<td>Telephone befriending. Weekly teleconferencing/calls for groups of 6-8 people with a host/facilitator leading.</td>
<td>Yes</td>
<td>Paper lacks detail, potential bias as authored by CX of the</td>
<td>No</td>
<td>Elderly people 65+ years</td>
</tr>
<tr>
<td>Intervention type (author)</td>
<td>Intervention details</td>
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<td></td>
<td>Inputs</td>
<td>Outcomes</td>
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<tr>
<td><strong>Befriending</strong> (Bauer et al 2011)</td>
<td>Befriender visits person in their home 1:1 and the individual has asked/agreed to be &quot;befriended&quot;. 1hr/week or fortnight. Unstructured with no formal defined goal. Participants matched for interests. Intervention presumed to be targeted at the lonely, isolated individual over 50.</td>
<td>Yes</td>
<td>Potentially</td>
<td>Good quality study with potential for more detail.</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Befriending</strong> (Optimity advisors, for NICE, 2015)</td>
<td>Friendship programmes in Netherlands (need more detail as one of interventions included in a systematic review)</td>
<td>Yes</td>
<td>Yes</td>
<td>Summary for NICE. Dutch intervention.</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Community singing</strong> (Coulton et al, 2015)</td>
<td>A 14-week 90-minute programme of participative singing for older people, to improve mental health-related quality of life.</td>
<td>Yes</td>
<td>Yes</td>
<td>Reasonably good record, with more detail than the other record for this intervention</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Community singing</strong> (Optimity advisors, for NICE, 2015)</td>
<td>Participation in choral singing in USA. The intervention lasted for 30 weeks with weekly singing rehearsals as well as public performances several times during the intervention period</td>
<td>Yes</td>
<td>Maybe – would need more detail</td>
<td>Summary for NICE. USA intervention.</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Day services for older people</strong> (Age UK, 2011)</td>
<td>Day services: providing social contact and stimulation breaks for carers; offering activities: for mental and physical stimulation; enabling care and monitoring low-level support for older people at risk; assisting recovery and rehabilitation after an illness or accident care services e.g. bathing and nail-cutting; promoting health and nutrition.</td>
<td>No</td>
<td>No</td>
<td>Insufficient data in this document. Some of the documents quoted may yield data, however, many fall outside the review criteria due to pre 2010</td>
<td>No</td>
</tr>
<tr>
<td>Intervention type (author)</td>
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<tr>
<td><strong>Day services for older people</strong> (Windle et al, 2009)</td>
<td>Community facing projects: Well-being practical: 10 projects e.g. housing repairs, gardening squads etc. well-being emotional/social isolation: lunch clubs, hobby or ed classes, talking therapies friendship through classes or groups Well-being physical: time limited exercise classes 8-12 weeks) (55+ exercise Camden) Well-being community: neighbourhood schemes, “hubs” etc. active living centres/hubs</td>
<td>Some</td>
<td>No</td>
<td>This is a comprehensive report. Has info that could be used on ROI but aggregation of analysis may be a serious flaw preventing it from being useful at individual intervention level. Too heterogeneous.</td>
<td>No, but may be useful reference material for others</td>
</tr>
<tr>
<td><strong>Dementia: Early diagnosis</strong> (Banerjee et, 2009)</td>
<td>Based on the Croydon Memory Service Model which provides early diagnosis of dementia as well as information and direct medical, psychological and social help to patients and their families</td>
<td>Yes</td>
<td>Yes</td>
<td>There is enough information to do an ROI calculation, but it is based on assumptions rather than observed impacts.</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Dementia: non-pharmacological interventions</strong> (Gitlin et al, 2010)</td>
<td>Tailored Activity Program (TAP) in USA: 8 sessions of occupational therapy over 4-months to develop customized activities, and train families in their use, for individuals with dementia</td>
<td>Some</td>
<td>Yes</td>
<td>USA intervention. Potentially useful information, although from a limited perspective. Unclear how caregivers spent saved time and whether less time in caregiving is related to better health outcomes.</td>
<td>Maybe</td>
</tr>
<tr>
<td><strong>Dementia: non-pharmacological interventions</strong> (NICE, 2018)</td>
<td>Large range of cognitive, exercise, music therapy :- Cognitive rehabilitation; Cognitive stimulation therapy; Cognitive training; Reminiscence therapy; Exercise (Group); Music therapy (Active); Music therapy (Individual); Occupational therapy.</td>
<td>Yes</td>
<td>Yes</td>
<td>Several interventions listed – needs to be more granular.</td>
<td>Maybe</td>
</tr>
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<td>Intervention type (author)</td>
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<tr>
<td>Dementia: Nursing/care home interventions (Ballard et al, 2018)</td>
<td>The WHELD programme: person centred care and psychosocial interventions for agitation in dementia sufferers living in nursing homes. Combines staff training, social interaction, and guidance on use of antipsychotic medications.</td>
<td>Yes</td>
<td>Yes</td>
<td>Was, in principle about non-pharmaceutical interventions, but did include an anti-psychotic review</td>
<td>Yes</td>
</tr>
<tr>
<td>Dementia: Nursing/care home interventions (Siddiqi et al, 2016)</td>
<td>A 16 month educational package to support care home staff to address risk factors for delirium. A specialist Delirium Practitioner delivered 3 interactive education sessions and facilitated Working Groups of care home staff.</td>
<td>Yes</td>
<td>No</td>
<td>This is a feasibility study that does not calculate and report outcome costs.</td>
<td>No</td>
</tr>
<tr>
<td>Extracare housing - compared with home (Goswell, 2014; Frontier Economic, 2010; Batty, 2017; IPC, 2011)</td>
<td>Self-contained accommodation, 24 hr support, some collective meal provision, range of leisure and other facilities on site, range of tenure options and varying size of developments.</td>
<td>Yes</td>
<td>Yes</td>
<td>Several records with detailed information. If include would cross reference for ranges</td>
<td>Yes</td>
</tr>
<tr>
<td>Extracare housing - compared with home (Petch, 2014; Extracare Charitable Trust, 2015; HLIN, 2017; Nash, 2013)</td>
<td>As above</td>
<td>No</td>
<td>No</td>
<td>These records are evidence reviews and summaries so may provide useful additional information to above</td>
<td>NA</td>
</tr>
<tr>
<td>Extracare housing - compared with other care home (Baumker, 2011)</td>
<td>Extracare retirement villages (19 schemes, mixed housing tenures) located in Midlands and Northern England</td>
<td>Yes</td>
<td>Yes</td>
<td>Detailed record. Relevant if wish to include comparison with care homes versus own home</td>
<td>Maybe</td>
</tr>
<tr>
<td>Housing adaptations and modifications (including)</td>
<td>Services to carry out repairs and adaptations, sometimes on discharge from hospital, others to assist independence at home. May also involve caseworkers and advice.</td>
<td>Some</td>
<td>No</td>
<td>Insufficient detail on outcomes, and benefits based on assumptions not measured (e.g.</td>
<td>No</td>
</tr>
<tr>
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<tr>
<td><strong>handyperson scheme / care and repair</strong> (Crg, Research, 2009; Croucher &amp; Lowson, 2011; IPC, 2011; Adams, 2018, Adams 2016; Powell et al, 2017)</td>
<td></td>
<td></td>
<td>assumed falls prevented)</td>
<td></td>
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<tr>
<td><strong>Housing adaptations and modifications</strong> (Garrett et al, 2016)</td>
<td>Preventive housing interventions for disabled and vulnerable, where risk of accidents in home is worse than national average.</td>
<td>No</td>
<td>Paper is truncated at the introduction. Summary claims benefits to health and social care but need more info and full report not accessible.</td>
<td>Maybe</td>
<td>NR</td>
</tr>
<tr>
<td><strong>Housing adaptations and modifications</strong> (Ambrose et al, 2018)</td>
<td>Five-year investment programme of more than £490 million to upgrade over 32,000 dwellings to a ‘Lambeth Housing Standard’. Sub-programmes were: warmth and comfort (including fuel poverty), safety and independence (including accident prevention) and security.</td>
<td>Some</td>
<td>There is information for a ROI tool, but it is based on other literature, not original data from this intervention.</td>
<td>Maybe</td>
<td>Mean 65+ years</td>
</tr>
<tr>
<td><strong>Sheltered housing/specialist housing schemes</strong> (Wood, 2017)</td>
<td>Sheltered housing (and retirement housing)</td>
<td>No</td>
<td>Briefing paper on review of interventions. Contains estimated value of benefits but no input costs. Full report may contain more details</td>
<td>No</td>
<td>Various</td>
</tr>
<tr>
<td><strong>Integration: Hospital discharge support</strong></td>
<td>Various integration schemes described in reviews.</td>
<td>No</td>
<td>Difficult to draw conclusions, largely due to weakness in the evidence and the</td>
<td>No</td>
<td>Various</td>
</tr>
<tr>
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<tr>
<td>(Nolte &amp; Pitchforth, 2015;</td>
<td>Generic prototype of care/case-management practice attempting to standardise practice and make written agreements between hospital and home care and within home care (in Finland).</td>
<td>No</td>
<td>Some</td>
<td>variety of sources. May be useful background.</td>
<td>No</td>
</tr>
<tr>
<td>Integration: Hospital discharge support (Hammar et al, 2009)</td>
<td>INTERCOM programme in Netherlands, consisted of exercise training, education, nutritional therapy and smoking cessation counselling offered by community-based physiotherapists and dieticians and hospital-based respiratory nurses.</td>
<td>Yes</td>
<td>Yes</td>
<td>Finnish study - interventions are not described in detail, but they appear to have different between municipalities.</td>
<td>Yes</td>
</tr>
<tr>
<td>Integration: Hospital discharge support (Hoogendoorn et al, 2010)</td>
<td>An enhanced program (HOME), involving pre/post discharge visits and 2 follow-up phone calls, compared with an in-hospital consultation using the home and community environment assessment and the Lawton Instrumental Activities of Daily Living assessment, in Australia.</td>
<td>Yes</td>
<td>Yes</td>
<td>Dutch study, showing QAL gains and ICER. Including all COPD- and non-COPD-related healthcare costs, travel expenses and cost of productivity losses.</td>
<td>No</td>
</tr>
<tr>
<td>Integration: Hospital discharge support (Kylie et al, 2018)</td>
<td>A range of projects intended to prevent hospital admission, rehabilitate patients in hospital or assist patients returning home from hospital</td>
<td>No</td>
<td>No</td>
<td>POPPS evaluation report with insufficient detail on specific interventions</td>
<td>No</td>
</tr>
<tr>
<td>Integration: Hospital discharge support (IPC, 2011)</td>
<td>Hospital Discharge teams in 2 Trusts were re-configured to be more rehabilitation focused, aiming to improve the patient journey from hospital to home and support patients to be independent.</td>
<td>No</td>
<td>Some</td>
<td>There are no input costs and impact costs are only assumed.</td>
<td>No</td>
</tr>
</tbody>
</table>
## The older adults' NHS and social care return on investment tool

<table>
<thead>
<tr>
<th>Intervention type (author)</th>
<th>Intervention details</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Integration: Hospital discharge support</strong> (Royal Voluntary Service/SCIE, 2014)</td>
<td>Services for older people being discharged for hospital (review of various services).</td>
<td>No</td>
<td>No</td>
<td>Restricted to an analysis of hospital readmissions and potential savings dependent on a large number of assumptions.</td>
<td>No</td>
</tr>
<tr>
<td><strong>Integration: Inter-professional working</strong> (Allen &amp; Glasby, 2010)</td>
<td>Review of prevention and rehabilitation schemes.</td>
<td>No</td>
<td>No</td>
<td>There are no specific inputs or outcomes, nor cost data. This is a narrative review.</td>
<td>No</td>
</tr>
<tr>
<td><strong>Integration: Inter-professional working</strong> (Clarkson et al, 2011)</td>
<td>Integrating assessments of older people, including both care managers’ and additional clinicians’ assessments (with a standard reporting process back to care managers)</td>
<td>No</td>
<td>No</td>
<td>A research letter with no detail of input or output costs. It may be possible to get more detail from the original paper (but this is quite old).</td>
<td>No</td>
</tr>
<tr>
<td><strong>Integration: Inter-professional working</strong> (Daksha et al, 2013)</td>
<td>Three inter-professional working models for community dwellers: Case Management, Collaboration and Integrated Teams.</td>
<td>No</td>
<td>No</td>
<td>Worldwide evidence with considerable heterogeneity in the outcomes reported and how they were measured. Good overview of different integrated care models.</td>
<td>No</td>
</tr>
<tr>
<td><strong>Integration: Inter-professional working</strong> (Taylor, 2013)</td>
<td>Redesigned models of care, based on 6 community multi-disciplinary teams.</td>
<td>No</td>
<td>No</td>
<td>A description of service plans.</td>
<td>No</td>
</tr>
<tr>
<td>Intervention type (author)</td>
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<tr>
<td><strong>Integration: Interprofessional working</strong> (Opinder et al, 2017)</td>
<td>Community In-reach Rehabilitation and Care Transition (CIRACT) service: an OT, physiotherapist, assistant practitioner, linked to a social worker, working with patients and carers.</td>
<td>Unclear Unclear</td>
<td>Possibly enough information for a ROI calculation in the appendices. No significant differences in any of the outcomes but ICER favourable.</td>
<td>Yes</td>
<td>Frail elderly 70+ years admitted as an acute medical emergency.</td>
</tr>
<tr>
<td><strong>Integration: Interprofessional working</strong> (Wiley-Exley et al, 2009)</td>
<td>Integrated care for elderly depressed patients with a behavioural health professional co-located in the primary care setting for veterans in USA (compared to specialty referral to a behavioural health provider outside primary care).</td>
<td>No Yes</td>
<td>A good analysis of QALYs, but no input costs are provided.</td>
<td>Maybe</td>
<td>65+ years</td>
</tr>
<tr>
<td><strong>Integration: Interprofessional working</strong> (Windle et al, 2009)</td>
<td>Proactive case coordination: various approaches to identify people at risk of admission to hospital or long term care (case finding) and care or case management.</td>
<td>No No</td>
<td>Input and outcome costs not specified at individual project or category level. It may be possible to identify them from report authors</td>
<td>Maybe</td>
<td>Ave 78 years (range 48-99)</td>
</tr>
<tr>
<td><strong>Integration: Interprofessional working</strong> (Windle et al, 2009)</td>
<td>Services provided to people with long term conditions and other complex needs, provided by integrated teams of social care, health and VCO staff.</td>
<td>No No</td>
<td>Input and outcome costs not specified at individual project or category level. It may be possible to identify them from report authors</td>
<td>Maybe</td>
<td>Ave 75 years (range 41-97)</td>
</tr>
<tr>
<td><strong>Integration: Interprofessional working</strong> (NICE, 2015)</td>
<td>Integrating health and/or social care planning and professional input. Based on the American GRACE model: an in-home comprehensive geriatric assessment from case managers, used to create an individualised care plan discussed with the MDT.</td>
<td>Maybe Maybe</td>
<td>Need to check detail available on costs. Mainly healthcare benefits.</td>
<td>Maybe</td>
<td>Mean 72 years</td>
</tr>
<tr>
<td>Intervention type (author)</td>
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<tr>
<td><strong>Physical activity: Community based schemes</strong> (Harrington et al, 2010)</td>
<td>For stroke survivors and carers/family, to improve integration and well-being after stroke. Exercise and education schemes held twice weekly for 8 weeks for 9 participants, facilitated by volunteers and qualified exercise instructors (supported by a physiotherapist). (Compared to standard care – variable dependent on PCT)</td>
<td>Some</td>
<td>The report does not have enough information (output costs missing). These were presumably measured, but it may be difficult to identify them from the authors as the study is old (recruitment of participants in 2004).</td>
<td>Maybe</td>
<td>Minimum 50 years</td>
</tr>
<tr>
<td><strong>Physical activity: Community based schemes</strong> (Clark et al, 2012)</td>
<td>Weekly 2-hour sessions (small group and individual) led by a licensed occupational therapist and up to 10 individual 1-h sessions with an occupational therapist in homes or community settings in USA.</td>
<td>Yes</td>
<td>USA intervention. Information on costs of outputs is missing. It may be difficult to identify this from the authors as the study is old.</td>
<td>Maybe</td>
<td>60-95 years</td>
</tr>
<tr>
<td><strong>Physical activity: Community based schemes</strong> (Davis et al, 2010; Davis et al, 2011)</td>
<td>Two intervention groups: once-weekly resistance training, twice-weekly resistance training, compared with twice-weekly balance and tone classes (all 60-min duration). The resistance training program used a progressive, high-intensity protocol. (In Canada). Study in 2011 followed up participants after 21 months.</td>
<td>Yes</td>
<td>Canadian studies - Study and comparator group sizes were small and numbers included in the economic analysis were even smaller.</td>
<td>Maybe</td>
<td>Women aged 65 to 75 years, living in community</td>
</tr>
<tr>
<td><strong>Physical activity: Community based schemes</strong> (Frew et al, 2014)</td>
<td>‘Be Active’ - allows Birmingham city residents to access their local Council-run leisure centres without charge at certain times of the day.</td>
<td>Yes</td>
<td>The base case analysis indicates a cost/QALY of £400. Most of the relevant output costs were based on assumptions from the literature. Focus is on</td>
<td>Maybe</td>
<td>16-70 years</td>
</tr>
<tr>
<td>Intervention type (author)</td>
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<tr>
<td>Physical activity: Community based schemes (Underwood, 2013)</td>
<td>Exercise for depression in care home residents - 'whole-home' exercise intervention, consisting of training for care home staff backed up with a twice-weekly, physiotherapist-led exercise group (compared with depression awareness training for staff).</td>
<td>Yes</td>
<td>Yes</td>
<td>Only result in favour of intervention was odds of being depressed at 12 months. Other measures (inc QALYs) favoured control.</td>
<td>Maybe</td>
</tr>
<tr>
<td>Physical activity: Community based schemes (Windle et al, 2010)</td>
<td>Physical exercise to promote mental well-being in older age (review of evidence) targeted those who are sedentary and delivered in a community setting, primarily through a group-based approach led by trained leaders. As a minimum, the evidence would suggest 2 exercise sessions per week, each of 45min duration.</td>
<td>No</td>
<td>No</td>
<td>There is not enough information for a ROI calculation. This is an old review and included papers appear to have lacked data.</td>
<td>No</td>
</tr>
<tr>
<td>Physical activity: Community based schemes (Windle et al, 2009)</td>
<td>Time-limited exercise classes focussed on improving overall health; a T'ai Chi course; a chiropody service; a rehabilitation course run by a voluntary organisation.</td>
<td>No</td>
<td>No</td>
<td>Inputs costs not specified for intervention types. It may be possible to identify them from report authors</td>
<td>Maybe</td>
</tr>
<tr>
<td>Physical activity: Remote support (e.g. telephone) (Geraedts et al, 2013)</td>
<td>Remote feedback strategies on physical activity and capacity in home-based physical activity interventions for older adults with or without comorbidities.</td>
<td>No</td>
<td>No</td>
<td>Review, with little information on costs for individual interventions considered.</td>
<td>No</td>
</tr>
<tr>
<td>Physical activity: Remote support (e.g. telephone) (Graves et al, 2009)</td>
<td>A telephone-delivered intervention for physical activity and diet. Programme for participants with T2DM and/or hypertension. 12-month intervention involving 18 calls from trained counsellors - also receiving workbook, pedometer, self-monitoring form and exercise band. Compared to 'Usual Care' group (3 output costs are missing. Getting the data from authors may be impractical as the study is quite old (2009) and is an Australian study.</td>
<td>Yes</td>
<td>No</td>
<td></td>
<td>No</td>
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<tr>
<td><strong>Practical support: Help at home schemes</strong> (Bauer et al, 2017)</td>
<td>Telephone interviews of 45–60 minutes and 'real control' (no intervention).</td>
<td>Yes</td>
<td>Yes</td>
<td>Applicable study with cost information.</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Practical support: Help at home schemes</strong> (Branelly &amp; Matthews, 2010)</td>
<td>Help at home community scheme - volunteer-provided face-to-face and telephone befriending scheme; a practical home help service for gardening, shopping and cleaning; and welfare benefit advice service.</td>
<td>Yes</td>
<td>Yes</td>
<td>Thematic analysis with benefits discussed in narrative form.</td>
<td>No</td>
</tr>
<tr>
<td><strong>Practical support: Help at home schemes</strong> (Pleace, 2013)</td>
<td>Handy person services: free home maintenance.</td>
<td>Yes</td>
<td>Yes</td>
<td>Review of evidence on various schemes, based on old data.</td>
<td>Maybe</td>
</tr>
<tr>
<td><strong>Practical support: Help at home schemes</strong> (Windle et al, 2009)</td>
<td>Preventative support services: 1. Handyperson schemes, 2. Telecare models, alarm systems and mobile wardens, 3. Equipment and adaptations (grab rails, stair lifts, ramps etc.), 4. Floating housing support services (advice, information low level support (assisting reablement after ill health, hosp discharge etc.)</td>
<td>Yes</td>
<td>Yes</td>
<td>Not sufficient detail at individual intervention level, unless POPPS project information is still available, but projects are pre-2010.</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Practical support: Help at home schemes</strong> (NICE, 2015)</td>
<td>Based on the IBSEN study: social care services provided as part of a care package for people living in their own home and the care planning approach. Care management provided by a professional care manager or coordinator, who was usually employed by the local authority or by home care agencies.</td>
<td>Yes</td>
<td>Yes</td>
<td>Sufficient detail available to include.</td>
<td>Yes</td>
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<tr>
<td><strong>Practical support: Help at home schemes</strong> (IPC, 2011)</td>
<td>Shared Lives: a service provided by individuals and families (carers) who provide care or support to people placed with them in their own home by the local authority. They can provide long-term accommodation and support; short breaks; day-time support; rehabilitative or intermediate support; and kinship support (to those in own homes).</td>
<td>Some</td>
<td>The sources used were a bit confusing. The age range is mixed and 75% under 65</td>
<td>No</td>
<td>Mixed, 75% under 65</td>
</tr>
<tr>
<td><strong>Practical support: Help at home schemes</strong> (SCIE, not dated)</td>
<td>The Living Well scheme - low level support for day to day living: volunteers help person build social network and community connections. Practical support, navigation and coordination are provided in order to boost self-confidence and self-reliance.</td>
<td>Some</td>
<td>Need more detail of costs by contacting authors</td>
<td>Maybe</td>
<td>Older people</td>
</tr>
<tr>
<td><strong>Practical support: Help at home schemes</strong> (Dixon et al, 2014)</td>
<td>British Red Cross (BRC) Support at Home service: short-term practical and emotional support aimed at developing confidence &amp; independence esp. after difficult times such as hosp. stay etc. - contact times of 4-40 hrs, ave 10 hrs.</td>
<td>Yes</td>
<td></td>
<td>Yes</td>
<td>Mean age 76 years</td>
</tr>
<tr>
<td><strong>Reablement: general</strong> (Cochrane et al, 2016;</td>
<td>Time-limited reablement services to improve functional independence for older people (aged 65 years or more).</td>
<td>No</td>
<td>Cannot be used in a ROI tool. The outcomes are not measured or costed.</td>
<td>No</td>
<td>&gt; 65 years</td>
</tr>
<tr>
<td><strong>Reablement: general</strong> (Glendinning et al, 2011)</td>
<td>Short-term intervention in home care - helps users to regain confidence and relearn self-care skills and aims to reduce needs for longer-term support. Services provide personal care, help with activities of daily living and other practical tasks for a time-limited period. The provision of items of equipment is also an important feature.</td>
<td>Yes</td>
<td>Prospective longitudinal, comparative before-and-after study with sufficient cost information.</td>
<td>Yes</td>
<td>&gt; 65 years, high proportion female</td>
</tr>
<tr>
<td><strong>Reablement: general</strong></td>
<td>Reablement designed to help people learn or relearn the skills necessary for daily living which</td>
<td>No</td>
<td>These records are evidence reviews,</td>
<td>No</td>
<td>&gt; 65 years</td>
</tr>
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<td>(Francis et al, 2011; Sims-Gould, 2017; Wood &amp; Salter, 2012; Faria et al, 2015; SCIE, 2011, SCIE, 2014)</td>
<td>may have been lost through deterioration in health and/or increased support needs. A focus on regaining physical ability is central, as is active reassessment.</td>
<td></td>
<td>briefings and summaries, with insufficient cost information, but may provide useful additional information.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reablement: general (Jutkowitz et al, 2012)</td>
<td>Advancing Better Living for Elders (ABLE) in USA, which involves occupational and physical therapy sessions and home modifications to address client-identified functional difficulties, performance goals, and home safety. 5 OT contacts and one 1.5-hour physical therapy (PT) home visit over the first 6 months.</td>
<td>Yes No</td>
<td>Limitations due to comparator and unable to measure outputs. USA intervention.</td>
<td>No &gt; 70 years</td>
<td></td>
</tr>
<tr>
<td>Reablement: general (Sigurdsson et al, 2008)</td>
<td>Preoperative and postoperative education programs, as well as home visits from an outpatient team after a shortened hospitalization, in Iceland in 1997/99 (compared to conventional rehabilitation).</td>
<td>Some Some</td>
<td>Costs of inputs and outputs reported separately, in an unpublished manuscript. Icelandic intervention from 1990s.</td>
<td>No Patients with primary hip replacement.</td>
<td></td>
</tr>
<tr>
<td>Reablement: general (NICE, 2017)</td>
<td>Bed based intermediate care - acute care followed by nurse led bed based care, with nurse leading clinical team including authority to admit and discharge patients; discharge planning; patient centeredness.</td>
<td>Some Some</td>
<td>Based on 4 UK studies. A number of the estimates used in the economic model were based on single studies and on expert opinion.</td>
<td>Maybe Mean age 70 years</td>
<td></td>
</tr>
<tr>
<td>Reablement: general (NICE, 2017)</td>
<td>Reablement a short-term individualised service designed to promote the independence and minimise the need for ongoing support services, for those at home (not post-hospital).</td>
<td>Yes Some</td>
<td>Economic analysis of 2 studies from England and Australia. Costs of outputs are provided, but it is difficult to identify a cost per case.</td>
<td>Yes 65+ years</td>
<td></td>
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<tr>
<td><strong>Reablement: Rehabilitation</strong> <em>(Bulthuis et al, 2008)</em></td>
<td>3-week intensive exercise training (IET) program directly following hospital discharge in patients with rheumatic diseases in the Netherlands</td>
<td>Yes</td>
<td>Yes</td>
<td>Dutch study with wide age range.</td>
<td>Maybe</td>
</tr>
<tr>
<td><strong>Reablement: Rehabilitation</strong> <em>(Chava et al, 2013)</em></td>
<td>Occupational therapy based, community based geriatric rehabilitation in the USA.</td>
<td>Some</td>
<td>Yes</td>
<td>Limited sample size and questions over validity of outputs.</td>
<td>Maybe</td>
</tr>
<tr>
<td><strong>Reablement: Rehabilitation</strong> <em>(Opinder et al, 2016)</em></td>
<td>Community In-reach Rehabilitation and Care Transition Team</td>
<td>No</td>
<td>No</td>
<td>Only a summary of trial with no link to full document. CIRACT included in Pinder et al 2017 (integration)</td>
<td>No</td>
</tr>
<tr>
<td><strong>Reablement: Rehabilitation</strong> <em>(Waterhouse et al, 2010)</em></td>
<td>Different approaches to pulmonary rehabilitation (hospital/community, telephone follow-up/no follow-up).</td>
<td>Yes</td>
<td>Some</td>
<td>QALY gains not statistically significant</td>
<td>No</td>
</tr>
<tr>
<td><strong>Reablement: Rehabilitation</strong> <em>(Williams et al, 2016; Williams et al, 2017)</em></td>
<td>Multidisciplinary rehabilitation package following hip fracture, including goal setting and patient held workbook.</td>
<td>Yes</td>
<td>Yes</td>
<td>Costs were higher in intervention group and QALY gains not statistically significant.</td>
<td>No</td>
</tr>
<tr>
<td><strong>Reablement: Rehabilitation</strong> <em>(Windle et al, 2017)</em></td>
<td>Fall services providing specialist skills to address the needs of older people who were at risk or had sustained a fall.</td>
<td>No</td>
<td>No</td>
<td>Insufficient cost information and focus on falls.</td>
<td>No</td>
</tr>
<tr>
<td><strong>Self-management: Chronic pain</strong> <em>(Boyers et al, 2013)</em></td>
<td>Various self-management schemes for chronic pain e.g. aerobic exercise, water based, resistance training – heterogeneous, so no meta-analysis possible.</td>
<td>No</td>
<td></td>
<td>Self-management led to statistically significant QALY gains relative to usual care in one example. Although not enough information for</td>
<td>No</td>
</tr>
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<tr>
<td><strong>Self-management: Chronic pain</strong> (Manning et al, 2014)</td>
<td>The EXTRA programme, for people with Rheumatoid Arthritis (RA) comprised 4 1h supervised group (4 to 6 participants) training sessions (delivered twice weekly for the first 2 weeks) supplementing a daily home exercise regimen.</td>
<td>Yes</td>
<td>ROI, this is a good paper with relevant general results on cost effectiveness.</td>
<td>Maybe</td>
<td>Mean 55 years</td>
</tr>
<tr>
<td><strong>Self-management: COPD</strong> (Ninot et al, 2011)</td>
<td>Supervised exercise sessions in a self-management programme for COPD patients in France. 8 lectures to small groups of 4-8 participants at a rate of 2 sessions (i.e. 2 h per session) per week for 4 weeks, followed by exercise at home.</td>
<td>No</td>
<td>Small sample size. (NB. There are other programmes for RA e.g. ESCAPE pain)</td>
<td>Maybe</td>
<td>Mean 65 years</td>
</tr>
<tr>
<td><strong>Self-management: COPD</strong> (Taylor et al, 2012)</td>
<td>Better Living with Long term Airways disease (BELLA) - course run by 2 trained lay (peer) tutors (at least one of whom had COPD), who delivered a structured, manualised, 3-hour session once a week for 7 weeks at a local community centre.</td>
<td>Yes</td>
<td>French study Input costs missing. It may be possible to make some assumptions for missing input costs.</td>
<td>Maybe</td>
<td>Mean 69.5 years</td>
</tr>
<tr>
<td><strong>Telecare/assistive technology at home</strong> (Newton et al, 2008; Brownsell et al, 2008; )</td>
<td>Telecare service at home: referrals and equipment installation, alarm monitoring.</td>
<td>No</td>
<td>Insufficient cost information.</td>
<td>No</td>
<td>Mean age various</td>
</tr>
<tr>
<td><strong>Telecare/assistive technology at home</strong></td>
<td>Telecare services for elderly at home: referrals and equipment installation, alarm monitoring.</td>
<td>Some</td>
<td>Cost information lack detail but report indicates positive ROI,</td>
<td>Maybe</td>
<td>80+ years</td>
</tr>
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<td>(London: DH Care Networks, 2010),</td>
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<tr>
<td><strong>Telecare/assistive technology at home</strong> (Goodacre, 2008; Clifford et al, 2012).</td>
<td>Assisting technology studied, for patients with different long term conditions.</td>
<td>Yes</td>
<td>Two economic modelling studies with detailed information</td>
<td>Yes</td>
<td>Age range 70 – 78 years, with LTCs</td>
</tr>
<tr>
<td><strong>Telecare/assistive technology at home</strong> (Al-Oraibi et al, 2012)</td>
<td>Assisting Technology (AT) in care homes</td>
<td>No</td>
<td>Small and heterogeneous sampling</td>
<td>No</td>
<td>50+ years in care homes</td>
</tr>
</tbody>
</table>