



Appendices for a rapid scoping review of reviews on the evidence on housing and its relationship to wellbeing (including physical and mental health)

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Final Report – December 2016.

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## Appendix One – Final protocol

A rapid scoping review of reviews on the evidence on housing and its relationship to wellbeing (including physical and mental health)

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### **Background**

Stakeholder engagement methods as part of the wider What Works: Wellbeing strand of work identified key, priority topics within which evidence reviews were to be undertaken. One of the policy related topics identified was Housing. Participants across the different modes of engagement (stakeholder workshops, on-line questionnaire, community sounding boards, one-to-one interviews) raised housing as a key ingredient to both individual and community wellbeing (Voice of the User Report 2015). Universal access to safe, clean affordable housing was frequently noted as essential to wellbeing and housing related factors were seen as a determinant of neighbourliness and sense of community belonging.

Policy concerns often generate broad research questions. The breadth of the research question means that a review of reviews will allow the topic to be examined in terms of the reviews that already exist in the topic and the evidence gaps. Identification of the scope of the evidence will in turn allow additional questions to be formulated to be answered by a systematic review.

The review will be a rapid review as it is to be completed in around five months. It is a scoping review as it is seeking to present the range of evidence in the topic area, rather than answer a specific question about effectiveness. A review of reviews includes only the findings from previously published reviews of the evidence.

### **Outputs from the review of reviews**

Registration with PROSPERO, an International Register of Systematic Reviews.

A rapid scoping review of reviews

A conceptual pathway of how wellbeing (including health) is related to housing, based on the evidence retrieved from the reviews

Identification of research questions around specific interventions, which will be addressed in a systematic evidence review (July 2016 - December 2017)

A summary document in accessible language

### **Research question and sub questions**

What evidence links housing and wellbeing?

What is the evidence for a relationship between housing and wellbeing?

What evidence is there for the effectiveness of housing interventions on wellbeing?

### **Definitions**

#### *Wellbeing*

At the outset of the review, we are adopting the Office for National Statistics (2015) definition of wellbeing, as agreed by the What Works Centre for Wellbeing

(<http://whatworkswellbeing.org/wellbeing-2/>)

“Wellbeing, put simply, is about ‘how we are doing’ as individuals, communities and as a nation and how sustainable this is for the future. We define wellbeing as having 10 broad dimensions which have been shown to matter most to people in the UK as identified through a national debate. The dimensions are:

the natural environment	where we live
personal wellbeing	personal finance
our relationships	the economy
health	education and skills
what we do	governance

#### *Housing*

In this review, housing is defined as – “the usual residential home of an individual or family” (Taske et al, 2005, p.3)

As outlined above, this review is a rapid review of reviews, with the aim of producing a conceptual pathway of the relationship between housing and wellbeing. Therefore it is important to organise the evidence to support and expedite this process. Using the categories proposed by the UK Housing Review (Wilcox, Perry and Williams 2015), we have added additional information with the assistance of our review advisors. These categories will be used as a starting point for the review, to see if they match the evidence that we locate. We anticipate that additional categories may emerge during the review and that the categories from the UK Housing Review, that we have adapted, may be subject to revision.

Our initial typology to guide the review is as follows. The UK Housing Review categories are the bullet points, with additional explanations and potential subcategories in brackets.

- Housing, the economy and public expenditure (Housing market volatility, housing and the economy – high house prices, high rate of owner occupiers, unsustainable house price growth)
- Dwellings, stock condition and households (Quality of the dwelling, energy efficiency, space issues such as overcrowding and under occupancy, built form of houses (terraces, high rise, estates), access to services e.g. public services, commercial services)
- Private housing (Housing expenditure plans (Building affordable homes, help through the benefits system to support housing, right to buy in social housing))
- Housing needs, homelessness, lettings and housing management (This category may be divided into four categories) (Tenure/shared ownership/security of rental situations, relationship with social and private landlords/ extreme housing hardship).
- Help with housing costs (Costs borne by private households (mortgages, maintenance) and potential support with housing costs through the benefit system).
- (Housing Policy – this is an additional category suggested by review advisors, which is broadly related to housing expenditure plans, for example policy and legislative changes which have had both positive and negative effects on housing conditions and access to affordable secure housing)

These categories are focused on individual housing issues as opposed to neighbourhood issues, which may themselves affect individual housing situations, so there may need to be development of a category relating to this.

### **Scope**

We are taking a broad view of wellbeing, including all of the ten dimensions as listed above, and looking to see what review level evidence links housing and these dimensions. We will look at review level evidence of both how housing is *linked* to wellbeing and the *effectiveness* of housing interventions in improving wellbeing.

Due to the timescale within which the review is to be completed, we anticipate taking a view of housing interventions where the intervention is focussed on housing, rather than an intervention which may have housing related outcomes. Any reviews where there is a lack of clarity about the intervention or outcomes, will be resolved by discussion with the review team and the review advisors, for example, family support team interventions may support families to stay together and avoid evictions from their own homes.

Initial searching has indicated that there are two reviews of reviews which have examined housing *interventions* to improve health. Gibson et al (2011) describe three pathways that link health and housing: area characteristics, housing tenure and housing characteristics.

We plan to examine each of the wellbeing dimensions and assess the amount and strength of review level evidence linking them to housing, using the categories outlined above, both in terms of evidence linking housing to specific outcomes in the dimension and evidence for the outcome of housing interventions on the dimensions.

It is worth noting that a NICE evidence review (Taske et al 2005) identified a paucity of evidence in the area of health and housing, particularly at review level. This may impact on the findings of this review of reviews.

### **Methods**

Due to the timescale of the review (five months), a rapid review approach will be utilised to identify the most relevant evidence. The review will not attempt to search exhaustively for all relevant information; rather it will use a variety of approaches to identify the most relevant evidence at review level only. The data extraction and quality assessment will focus on the most critical information for evidence synthesis and there will be three key outputs from the synthesis of the review:

A conceptual pathway of how wellbeing (including health) is related to housing, based on the evidence retrieved from the reviews

Evidence map – for each of the ten dimensions, a table indicating the reviews linking the dimension and housing (see Appendix)

Table of review crossover (for each of the reviews included in the review of reviews, the primary studies included in them and whether there is any crossover (see Appendix).

#### Identification of evidence

The search has been developed by highly experienced information specialists. The aim of the search is to identify all housing reviews that relate to the ten dimensions of wellbeing. The concepts that underpin these ten dimensions are not always clear and there is overlap between terminologies. Therefore there is a risk that if we focus on terms relating to the ten dimensions, we may miss key evidence that does not use these terms explicitly i.e. Searching for HOUSING terms plus a REVIEW search filter plus terms relating to the DIMENSIONS risks not identifying key evidence. As a result, we are proposing to search using just housing terms for stage 1 of the search, and for housing terms plus a systematic review filter for stage 2 (see below).

The search will have a number of stages

Search of databases/evidence sources which contain systematic reviews (Cochrane Database of Systematic Reviews, DARE, Campbell Library, Joanna Briggs Institute, Epistemonikos, PROSPERO) using keywords adapted from the database search (Stage 2).

Targeted searches of databases, using a search strategy designed for specificity, utilising a systematic review filter. Databases to be searched are Medline via OVID, ASSIA via CSA, Cochrane Library via Wiley Interscience, PsycINFO via OVID, Web of Science via Web of Knowledge via ISI, Avery Index to Architectural Periodicals (ProQuest) and Emerald Insight.

A copy of the proposed search strategy is in Protocol Appendix 4. A scoping search has indicated that if we search for HOUSING plus REVIEW, we will identify c.10,000 records, which can be efficiently sifted according to our inclusion and exclusion criteria.

It is worth noting that we have restricted the freetext searching to title level only. This methodological decision is based on the clear terminology used to describe housing. As we are focusing on exploring the review level evidence, rather than undertaking a sensitive search of all literature relating housing and wellbeing, the chance of missing any relevant evidence (in the form of reviews) that do not use any of our housing terms is minimal and these papers are likely to be retrieved using stages 1 or 3-7. In the case that we do identify additional terminology for housing, or it is clear that there is evidence that we are “missing” via the database search, we will undertake a second targeted search of the databases, combining housing and wellbeing terms at title and abstract level. We anticipate that this search approach will identify evidence relating to homelessness. However, if this proves not to be the case, we will undertake targeted searches to identify this review level evidence.

We are not restricting the search via country as published search filters to identify evidence from specific countries are not always successful. In addition, evidence retrieved for the review of reviews may be used to help develop the scope of the systematic review

Scrutiny of the introduction/background/reference list of reviews retrieved via Stage 1 and Stage 2 to identify additional reviews.

Citation searching of all reviews retrieved through Stages 1-3

Liaison with topic experts

Identification of grey literature, likely to be mostly through topic experts

Search of topic relevant websites which potentially contain review level evidence –  
huduser.gov, housinglin.org.uk, hact.org.uk, Joseph Rowntree Foundation.

#### Inclusion and exclusion criteria

All titles and abstracts will be screened by one reviewer with a subset of the titles and abstracts being screened by a second. A calculation of inter-rater agreement will be made. Any queries will be resolved by discussion.

#### Review characteristics

Published between 2005-2016. However, as this is a review of reviews, reviews from, for example, 2005, will undoubtedly include evidence from earlier than 2005, so our date range will in fact be wider than 2005-2016 in terms of the publication date of individual studies included in the reviews.

#### Published in English Language only

Evidence from OECD countries to ensure relative comparability between housing type and availability.

Any article/paper/report that defines itself as a review, namely an article/paper that summarises the findings of two or more original research articles. The rapid review of reviews will include both qualitative and quantitative reviews, using all types of review methodology.

#### Content inclusion

Reviews reporting evidence linking housing to health or wellbeing outcomes.

Reviews reporting housing interventions that report an outcome related to any of the dimensions of wellbeing.

Outcomes that are related to an individual's wellbeing (including health). Where interventions are reported in terms of housing outcomes only, and no wellbeing outcomes are reported, wellbeing outcomes will not be extrapolated from housing outcomes.

Evidence relating to homes, not locations where people live other than the home (e.g. prisons, care homes, schools, universities etc.) Temporary accommodation will be included and any other dwelling that is considered to be a home e.g. a traveller caravan or sheltered housing/warden assisted housing will be included, where there is evidence.

#### **Data extraction**

Data will be extracted into summary tables, for inclusion in the review of reviews. These summary tables will be constructed in Word. A sample data extraction table can be found in the appendix. The review team are aware that there may be data in graphical form to be

extracted, for example, logic models. These will be extracted in order to inform development of our conceptual pathway and used in the evidence synthesis.

### **Quality assessment**

In a review of reviews, the legitimacy of the conclusions drawn is based on the results from the reviews that are included, which in turn are based on the results from the primary studies included in the review. Therefore two questions need to be answered: Was the review undertaken appropriately and was quality assessment of the primary studies included in the review undertaken?

In this rapid scoping review of reviews, we propose to

Extract data from the reviews about whether quality assessment was undertaken and what this quality assessment consisted of.

Be inclusive and use reviews that are of low quality, explicitly describing the implications of including them.

Examine specific features of the body of evidence, namely type of the review, quality of the reviews, consistency of the review findings, and consistency between unanswered research questions and how current/policy related/related to the UK context the research included is.

### **Data synthesis**

A narrative synthesis of the findings of the reviews will be undertaken. We will attempt to produce a conceptual pathway of how wellbeing (including health) is related to housing, based on the evidence retrieved from the reviews. We will also generate an evidence map, which tabulates the identified reviews in terms of which dimensions of wellbeing and which dimensions of housing they address. We will also look at the reviews that are included and map these against the primary studies that they include. Examples of these are included in the appendix.

### **Reporting our outputs**

In the report of the rapid scoping review, we will draw conclusions about possible questions for the systematic review, indicating which dimensions of housing and wellbeing are well covered by the evidence and where there are evidence gaps. We will consult with our review advisor (s) on the scope and relevance of these question and we will share our findings with the Communities programme and the wider HUB and disseminate accordingly.

### **Timelines**

Activity	Duration	Start	Finish
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Protocol development	4 weeks	4 <sup>th</sup> January 2016	31 <sup>st</sup> January 2016
Protocol sign-off (shared with team members and edited)	2 weeks	12 <sup>th</sup> February 2016	
Literature searching	2 weeks	15 <sup>th</sup> February 2016	26 <sup>th</sup> February 2016
Study selection, data extraction and quality assessment	6 weeks	29 <sup>th</sup> February 2016	8 <sup>th</sup> April 2016
Analysis and report writing	7 weeks	11 <sup>th</sup> April 2016	30 <sup>th</sup> May 2016
Delivery of draft report		27 <sup>th</sup> May 2016	
Delivery of final report		28 <sup>th</sup> June 2016	

### Review Team

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### Review Advisors

Dr Kesia Reeve – Principal Research Fellow, Sheffield Hallam University.

Jim Vine – Director of Evidence, Data and Insight, HACT.

The review advisors will be involved at the following stages/undertake the following tasks:

Invited to comment on the protocol via email.

Discuss and clarify protocol, particularly in relation to inclusion criteria

Meeting at the sifting stage to comment on included evidence

Inform the review team of studies, particularly from the grey literature, that have been missed and could be included

Know whether the traditional published literature is missing important content around current issues

Peer review the draft final report

Help with the identification of questions for the systematic review

Comment on the relevance of the systematic review to current policy, placing the academic exercise into the bigger picture

Introduce independence and transparency

## Protocol Appendices

### Protocol Appendix 1 - References

Acevedo-Garcia D OTL, Werbel R E, Meara E R, Cutler D M, Berkman L F. Does housing mobility policy improve health? *Housing Policy Debate*. 2004;15(1):49-98.

Anderson LM, Charles JS, Fullilove MT, Scrimshaw SC, Fielding JE, Normand J. Providing affordable family housing and reducing residential segregation by income. A systematic review. *American journal of preventive medicine*. 2003;24(3 Suppl):47-67.

Gibson M, Petticrew M, Bambra C, Sowden AJ, Wright KE, Whitehead M. Housing and health inequalities: A synthesis of systematic reviews of interventions aimed at different pathways linking housing and health. *Health & Place*. 2011;17(1):175-84.

Leaver CA, Bargh G, Dunn JR, Hwang SW. The effects of housing status on health-related outcomes in people living with HIV: a systematic review of the literature. *AIDS and behavior*. 2007;11(6 Suppl):85-100.

Office for National Statistics (2015) National Wellbeing, Measuring what matters.  
<http://www.ons.gov.uk/ons/guide-method/user-guidance/well-being/index.html>

Saegert SC, Klitzman S, Freudenberg N, Cooperman-Mroczek J, Nassar S. Healthy housing: a structured review of published evaluations of US interventions to improve health by modifying housing in the United States, 1990-2001. *Am J Public Health*. 2003;93(9):1471-7.

Taske N, Taylor, L, Mulvihill C, Doyle N. Housing and public health: a review of reviews of interventions for improving health. London: National Institute for Health and Clinical Excellence, 2005.

Thomson H, Atkinson R, Petticrew M, Kearns A. Do urban regeneration programmes improve public health and reduce health inequalities? A synthesis of the evidence from UK policy and practice (1980-2004). *J Epidemiol Community Health*. 2006;60(2):108-15.

Thomson H, Thomas S, Sellstrom E, Petticrew M. Housing improvements for health and associated socio-economic outcomes. 2013.

Thomson H, Thomas S, Sellstrom E, Petticrew M. The Health Impacts of Housing Improvement: A Systematic Review of Intervention Studies From 1887 to 2007. American Journal of Public Health. 2009;99(Suppl 3):S681-S92.

Voice of the User Report: Community Evidence Programme, December 2015. Available from <https://whatworkswellbeing.files.wordpress.com/2016/02/community-voice-of-the-user-report.pdf> (Accessed February 2016)

Wilcox S, Perry J and Williams P (2015) UK Housing Review, 2015 Briefing Paper. Available from <http://www.cih.org/resources/PDF/Policy%20free%20download%20pdfs/UKHR%20Briefing%202015.pdf>

#### Protocol Appendix 2 - Sample proposed data extraction form

Paper ID

Author and Year

Research question/review aim/review objective

Review inclusion criteria

Number of primary studies

Primary study designs

Population

Location

(Intervention)

Outcomes measured

Synthesis method

Findings

Conclusions

Recommendations for future research

#### Protocol Appendix 3 - Sample proposed quality assessment form

Paper ID -

Author and Year

Self reported methodological limitations (cut and paste from original article)

Was quality assessment of primary studies undertaken for the review?

Was this sufficient? Yes/No

If no, why not?

CEBM checklist

What question (PICO) did the systematic review address? Yes/No/Unclear  
Comment

Is it unlikely that important, relevant studies were missed? Yes/No/Unclear  
Comment

Were the criteria used to select articles for inclusion appropriate? Yes/No/Unclear  
Comment

Were the included studies sufficiently valid for the type of question asked? Yes/No/Unclear  
Comment

Were the results similar from study to study? Yes/No/Unclear  
Comment

Are the results presented appropriately? Yes/No/Unclear  
Comment

#### Protocol Appendix 4 - Proposed search strategy

1. \*Housing/
2. \*Public Housing/ or \*Housing for the Elderly/
3. (home or homes or house or houses or housing).ti.
4. 1 or 2 or 3
5. search:.tw. or meta analysis.mp,pt. or review.pt. or di.xs. or associated.tw.
6. 4 and 5
7. limit 6 to (english language and humans and yr="2005 -Current")

Protocol Appendix 5 - Example of evidence map structure

Dimension	Housing, the economy and public expenditure	Dwellings, stock condition and households	Private housing	Housing expenditure plans	Housing needs, homelessness, lettings and housing management	Help with housing costs
Health		Taske et al (2005) Gibson et al (2011)				
Where we live						
Personal finance						
The natural environment						
Personal wellbeing						
The economy						
Our relationships						
What we do						
Education and skills						
Governance						

Protocol Appendix 6 - Table of review crossover.

Overlapping studies marked in bold. Table incomplete – example only

	Review of reviews			
	Gibson et al (2011)	Taske et al (2005)		
Included reviews	Acevedo-Garcia et al (2004)	Anderson et al (2002)		
	Anderson et al (2003)	Anderson et al (2003)		
	Thomson et al (2006)			
	Thomson et al (2009)			
	Saerget et al (2003)			

Protocol Appendix 7 – Protocol amendments

Planned approach	Amendment made	Comments
<p>Scrutiny of the introduction/background/reference list of reviews retrieved via Stage 1 and Stage 2 to identify additional reviews.</p>	<p>We had planned to undertake additional search methods to identify evidence for the review, however when the number of results retrieved through stages 1 and 2 became evident, due to the rapid nature of the review, we were unable to undertake the following proposed stages (citation searching of all reviews retrieved and search of topic relevant websites which potentially contain review level evidence – huduser.gov, housinglin.org.uk, hact.org.uk, Joseph Rowntree Foundation).</p>	<p>We did liaise with our topic experts to identify both published and grey literature.</p>

## Appendix Two – Identification of evidence

1. \*Housing/
2. \*Public Housing/ or \*Housing for the Elderly/
3. (home or homes or house or houses or housing).ti.
4. 1 or 2 or 3
5. search:.tw. or meta analysis.mp,pt. or review.pt. or di.xs. or associated.tw.
6. 4 and 5
7. limit 6 to (english language and humans and yr="2005 -Current")

## Appendix Three – Data extraction (by evidence cluster)

Full data extraction tables are arranged in terms of the main evidence clusters

- Housing and mental health
- Homelessness
- Housing needs of specific groups
- Economic housing situation
- Neighbourhood/urban regeneration
- Housing design and the home environment
- Independent living – older people
- Independent living – intellectual disability

Abridged data extraction tables are arranged alphabetically via author.

## Mental health

Author/ Year/ Paper ID	Dimensions (housing and wellbeing)	Objective/ research question/ review aim	Inclusion criteria/ number of studies included/ type of studies included	Setting/ Participants/Populati on/ Years	Outcomes measured (HOUSING ONLY)  Measures of health/wellbeing (whether objective, subjective or otherwise validated)	Intervention (HOUSING ONLY)	Synthesis methods	Review outcomes (HOUSING ONLY)	Study type comments/Conclusions/ research recommendations
Burgoyne 2014 315		"How does the nature and quality of housing affect adults receiving support for mental health problems within the community?"	Exclusion=homeless  N=7  Qualitative studies. Data that consisted of user testimony	2000-2008  Adults of working age who have engaged with mental health services and admitted to psychiatric hospital	Quality, type, design, location, and tenure of accommodation. AND Outcomes - quality of life, user satisfaction, and maximisation of Independence, reducing hospital readmission.		Thematic analysis of seven studies that had passed the CASP quality assessment	The Tripod Model (when one leg/theme is missing, the service users accommodation is unstable) was developed through thematic analysis of the users quotes.  Three main interdependent themes – "domain", "facilitation", and "autonomy"  "Respondents needed accommodation of their choosing, suitable to their needs, and that enabled a chosen lifestyle with appropriately empowering support: ' many respondents needed "facilitation" (support) to help secure a "domain" (home); ' some found it difficult to sustain a "domain" without "facilitation"; ' "autonomy" was a positive and resourceful state where respondents felt they had control over their lives – closely associated with "domain"; and ' "facilitation" was support that enabled respondents to increase control over their lives and exercise choice – linked to "autonomy"."  Secondary themes of ownership (security of tenure), the importance of contact/isolation and occupation, which is a sense of purpose	Unique in that it is a UK review with a very UK focus which has considered the US literature and current policy but chosen to focus on the UK only.  It is a synthesis of user testimony of housing and draws upon these testimonies to describe the challenges that these individuals face in terms of housing.  "The main implication of the review findings for practitioners is that "domain", "facilitation", and "autonomy" require equal consideration and resources to achieve valued and sustainable accommodation. Whilst most peoples' well-being would be improved by a good quality domain in a positive context the study population may be disproportionately affected by a poor environment. The review strongly supported findings in the literature that enhanced housing and economic conditions provide a buffer against negative mental and physical health effects. The associated suggestion in built environment literature that housing quality can affect self-esteem and perceived social status is also supported in the findings."

Author/ Year/ Paper ID	Dimensions (housing and wellbeing)	Objective/ research question/ review aim	Inclusion criteria/ number of studies included/ type of studies included	Setting/ Participants/Population/ Years	Outcomes measured (HOUSING ONLY)  Measures of health/wellbeing (whether objective, subjective or otherwise validated)	Intervention (HOUSING ONLY)	Synthesis methods	Review outcomes (HOUSING ONLY)	Study type comments/Conclusions/ research recommendations
Kyle 2008 88	Housing related independent variables and health related dependent variables	The relationship between housing-related independent variables and health-related dependent variables.	Primary or secondary empirical Data (excluded if all qualitative)  29 studies (14 healthcare utilisation, 12 mental status, 9 QOL)	All  Adults (18-64) with severe and persistent mental illness (SPMI),	Healthcare outcomes – healthcare utilisation, mental status, quality of life.		Described by outcome variable	<p>Healthcare utilisation (13 studies) The majority of studies measured hospital use before and after housing interventions and although studies were weak, found reduced time spent in hospital. Relationship demonstrated between housing stability and reduced hospital utilisation. 12/13 are North America based.</p> <p>Mental health (12 studies) Promising findings from a selection of studies which were rated mostly weak and were highly variable and difficult to compare. Key findings that the type of housing is less important than actually being housed long term and support for treatment and functioning important.</p> <p>Quality of life (9 studies) Again promising findings from mostly weak quality studies. Often difficult to determine whether change in housing was what influenced quality of life.</p>	<p>Long term psychiatric care now occurs in the community. Stable housing maintains health.</p> <p>Good evidence that housing interventions benefit the homeless. Evidence is less clear for how housing interventions benefit those who are unstably housed but not homeless.</p> <p>The best evidence comes from studies of those who were previously homeless.</p> <p>Recommendations - Housing on discharge from hospital is a priority. Provide housing that is permanent and not contingent on treatment compliance or sobriety.</p> <p>Housing type definitions are often arbitrary and more should be done to focus on the factors that influence outcomes rather than the type of housing itself, for example that people with SPMI often preferred to be housed in single occupancy settings.</p> <p>Study methodologies could be improved by longitudinal or matched controlled groups or randomised interventions.</p>

Author/ Year/ Paper ID	Dimensions (housing and wellbeing)	Objective/ research question/ review aim	Inclusion criteria/ number of studies included/ type of studies included	Setting/ Participants/Populati on/ Years	Outcomes measured (HOUSING ONLY)  Measures of health/wellbeing (whether objective, subjective or otherwise validated)	Intervention (HOUSING ONLY)	Synthesis methods	Review outcomes (HOUSING ONLY)	Study type comments/Conclusions/ research recommendations
Nelson/2007/85	<p>Housing – one intervention compared with two other non housing interventions</p> <p>Wellbeing – focus of this review was on housing. Wellbeing outcomes reported narratively.</p>	The effectiveness of three interventions (permanent supportive housing, assertive community treatment and intensive case management) for homeless people with severe mental illness.	<p>Severe mental illness and homeless.</p> <p>N=16</p> <p>Experimental or quasi experimental – there must be a control group as well as an intervention group.</p>	<p>US.</p> <p>Participants were the homeless with severe mental illness</p> <p>All studies published by December 2004</p>	Stable housing (e.g. living in independent housing, living in permanent housing, number of days housed)	<p>Housing interventions for people with mental illness who have been homeless.</p> <p>(1) Permanent housing and support,</p> <p>Also looked at (2) assertive community treatment (ACT) and (3) intensive case management (ICM) in terms of their effect on housing</p>	Calculation of effect sizes for housing outcome measures for housing outcomes only	<p>"The best outcomes for housing support were found for programs that combined housing and support (effect size .67), followed by ACT alone (effect size .47) then ICM programs alone (effect size .28).</p> <p>Housing and support interventions (n=10) All US. Mixed gender and age. Better outcomes for those in intervention groups. Better outcomes if participating in both parts of the intervention (permanent housing and support)</p> <p>ACT and ICM (n=8) 2 also in above group</p> <p>Both of these interventions showed better housing outcomes than when compared with the control groups.</p>	<p>"In terms of the most effective approach in reducing homelessness, it appears that providing permanent housing and support is the most successful approach"</p> <p>Provision of permanent housing, as opposed to housing during healthcare treatment only has a positive effect on housing status, as compared with no effect.</p>

Author/ Year/ Paper ID	Dimensions (housing and wellbeing)	Objective/ research question/ review aim	Inclusion criteria/ number of studies included/ type of studies included	Setting/ Participants/Populati on/ Years	Outcomes measured (HOUSING ONLY)  Measures of health/wellbeing (whether objective, subjective or otherwise validated)	Intervention (HOUSING ONLY)	Synthesis methods	Review outcomes (HOUSING ONLY)	Study type comments/Conclusions/ research recommendations
Reif 2014 308	Recovery housing for individuals with substance use disorders generally consists of alcohol- and drug-free residences, such as sober living houses. Recovery housing frequently facilitates access to support services and treatment utilization, such as case management, therapeutic recreational activities, and peer coaching or support. Often working in partnership with treatment or recovery programs, recovery housing options may provide transportation, in-house counseling, or mentoring.	The relative value of recovery housing as a treatment approach.	randomized controlled trials (RCTs), quasi-experimental studies, single-group repeated-measures design studies, and review articles such as meta-analyses and systematic reviews; U.S. and international studies in English;  3 distinct studies from 5 papers  US	In summary, recovery housing is a type of service used for individuals with substance use disorders who are stepping down from inpatient or residential care or who are not ready or able to live independently  1995-2012	No housing outcomes measured				Moderate evidence from three studies that recovery housing positively affects : <ul style="list-style-type: none"> <li>• Drug and alcohol use</li> <li>• Employment</li> <li>• Psychiatric symptoms</li> </ul> There were no housing outcomes, the studies looked at the intervention of recovery housing on health outcomes alone.

Author/ Year/ Paper ID	Dimensions (housing and wellbeing)	Objective/ research question/ review aim	Inclusion criteria/ number of studies included/ type of studies included	Setting/ Participants/Population/ Years	Outcomes measured (HOUSING ONLY)  Measures of health/wellbeing (whether objective, subjective or otherwise validated)	Intervention (HOUSING ONLY)	Synthesis methods	Review outcomes (HOUSING ONLY)	Study type comments/Conclusions/ research recommendations
Rog 2014 309	Permanent supportive housing is a direct service that helps adults who are homeless or disabled identify and secure long-term, affordable housing. Individuals participating in permanent supportive housing generally have access to ongoing case management services that are designed to preserve tenancy and address their current needs.	The effectiveness of permanent supportive housing	Individuals with mental disorders or co-occurring mental and substance use disorders  RCTs, quasi-experimental studies, single group time-series design studies, and review articles	U.S. and international studies in English  Individuals with mental or substance use disorders who are homeless.  1995-2012	Housing stability  (Also most frequently measured hospital inpatient and emergency room use, consumer satisfaction, and behavioral health measures)	Permanent supportive housing (i.e. Housing First, Pathways to Housing, HUD-VASH and other models). These interventions all consider housing a basic right and offer housing first, then combined with other services. Abstinence is not required.	Qualitative. Data from reviews considered separately from that from RCTs	Despite the shortcomings in the body of research, a consistent finding was that the provision of housing— regardless of model— had a strong, positive effect in promoting housing stability and reducing homelessness permanent supportive housing had the largest effect of all models.  Three RCT's found that participants in Housing First had significantly less homelessness compared with participants receiving standard care, day treatment with no housing, or housing that was contingent on treatment and sobriety. Housing First participants obtained housing earlier and remained stably housed	Permanent supportive housing had improved outcomes when compared with usual care or with no housing. The benefits of the model were less strong when compared to other models of housing.  Permanent supportive housing is rated highly when compared with other models in terms of service user preference, mostly because it is less restrictive.

## Homelessness

Author/ Year/ Paper ID	Dimensions (housing and wellbeing)	Objective/ research question/ review aim	Inclusion criteria/ number of studies included/ type of studies included	Setting/ Participants/Population/ Years	Outcomes measured (HOUSING ONLY)  Measures of health/wellbeing (whether objective, subjective or otherwise validated)	Intervention (HOUSING ONLY)	Synthesis methods	Review outcomes (HOUSING ONLY)	Study type comments/Conclusions/ research recommendations
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Ateyo/2013/ 11592	Housing is an integral factor influencing recovering and wellbeing for people with SMI. Housing stability seen as a prerequisite for wellness. Stable housing associated with symptom reduction/decreased reliance on other services.	The role of Psychiatric Rehabilitation (PSR) (skills training and environmental supports) in relation to residential environments of people with serious mental illness (SMI)	20 studies  Quasi experimental, mixed methods and qualitative study designs.	All  People with SMI (not inpatients)  18-65 years  Published in the last 15 years	Numerous housing related issues with an outcome of improved housing for people with SMI.	PSR skills training and environmental supports	Qualitative	Enhanced community living skills can improve stability.  Different people with SMI had different needs for housing. Housing was addressed in terms of housing related needs, supports preference and choice, supports across the housing continuum, housing to promote stability, housing to improve functional status. Also mentioned the population of homeless with SMI.	PSR can be part of a package of support for people with SMI in relation to their housing.  Integrated care is very important for this group.  Housing can be a vital part of recovery planning and improved functioning through skill enhancement.
Bassuk/2014/ 1312	Family homelessness  Interventions to improve homelessness (residential stability) and also wellbeing (as measured by a number of dimensions)	The effectiveness of housing interventions and housing and service interventions for homeless families in the United States.	Primary empirical studies.  English  RCT, other controlled trials, quasi-experimental studies (note that cross sectional and qualitative excluded)  6 studies	US  Homeless families (defined as primary caregiver plus one child < 18 years old, pregnant mothers, one child < 18 years old plus a parent)  2007-2013	Housing status (measures of residential stability (primary outcome) , including days of permanent housing, duration of homelessness, and days before return to shelter)  Other outcomes related to the wellbeing of family members – adult employment, adult mental health (trauma/substance misuse), children's emotional and academic status, and family reunification.	Housing interventions - Housing First/rapid rehousing/Section 8 vouchers/housing subsidies/emergency shelter/transitional housing/permanent Supportive housing.  Comparator groups – housed families/homeless families (usual care)/different services/no comparator  Other interventions were included that addressed the basic needs (not housing) of homeless families.  All housing interventions also	Qualitative	The interventions in the reviewed studies can be grouped as follows: (a) Transitional or permanent supportive housing primarily with intensive case management (ICM) and other services (Transitional Housing Program, Sound Families, HNF); (b) usual care in emergency shelter, transitional housing, and permanent supportive housing with the types of services not specified (SHIFT); and (c) a systems approach featuring collaboration between housing or homeless agencies and child welfare or development agencies (Young Mothers).  Due to the limitations in the way that the results are described there are limited outcomes that can be drawn from the results – “inferential conclusions about programme effectiveness were not possible”.  “The interventions described in	Cross sectional studies were excluded.  This type of research in the academic literature is rare- these studies came from the grey literature and therefore did not rate well in terms of quality assessment.  Research recommendations are for more research with clearer reporting.  Questions about what homelessness is and therefore what implications this has for researchers and policy makers – “Does homelessness represent the lack of a house (i.e., bricks and mortar) or does homelessness also represent disconnection from supportive relationships, opportunity, and participation in community life?”  The research as it stands cannot

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						included a support service intervention.		these studies did not necessarily ensure that the families were or would become residentially stable— and had benefitted from their enrollment in the program."	really tell us what works and for whom. The housing interventions did not necessarily lead to people becoming more residentially stable, due to effects being overestimated as there were dropouts who were likely to have not seen their housing circumstances improve. Even when families were rehoused this was not always seen as being a permanent improvement in their housing status.
Benston/2015/313	Permanent housing (based on the Housing First model which does not insist on sobriety and being substance free) as opposed to transitional housing for the chronically homeless population.	"This analysis reviewed results of the best available research in the United States on permanent housing programs for homeless individuals with mental illness and the effect of these programs on treatment outcomes, inclusion housing status and mental health"	14 studies included (12 primary and 2 secondary analyses)  RCTs and quasi experimental studies	United States  Homeless people (people at immediate risk of homelessness) who have a mental illness (psychotic disorder and co-existing substance disorder)  1980-2013	Housing Housing outcomes were defined differently across the different primary studies making comparison challenging.  % housed at the end of the study period, length of time to achieve stable housing, proportion of time spent in stable housing versus homeless, days housed versus homeless.  Mental health Most of the studies used self-report instruments to determine psychiatric diagnoses and substance use at baseline.	Permanent supportive housing, including subsidized housing offered through housing vouchers		11/12 reported statistically significant results supporting a hypothesis that the preferred housing intervention outperformed the control intervention  7/14 reported mixed clinical and substance use outcomes – findings were mixed – only one showed an improvement for intervention group. None favoured the control group. Some favoured both groups and some favoured neither.  8/14 reported wellbeing or other self-reported psychological states. These outcomes were mixed.	Review claims that it is different to other reviews as it only looks at PERMANENT housing (and housing interventions only) and only looks at housing and mental health outcomes  Authors state that "The body of research is unable to answer fundamental questions about what type of housing program works best for homeless individuals with mental illness" This was due to the limitations of the interventions reported in the review (selection bias, response bias, attrition, problems with defining housing programs, lack of controls)  Only three of the included studies reported using a housing fidelity assessment tool.

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Fitzpatrick Lewis/2011/ 3773	Various	To assess the effectiveness of an intervention to improve the health or healthcare utilization of people who were homeless, marginally housed, or at risk of homelessness—update of the review by Hwang et al (2005)	The homeless, marginally housed, or at risk of homelessness  84 studies of which 10 are reported in the review  randomized controlled trials (RCTs), controlled clinical trials, analytic cohort studies (two group pre/post), case control studies, and observational cohorts (one group pre/post).	Not given  Homeless PLUS mental illness, substance use, living with HIV  January 2004-December 2009	Numerous measures of both health and housing, focussed around improved health and access to healthcare services and stability of housing	Numerous interventions arranged by group, therefore homeless PLUS mental illness, substance use, living with HIV	Rapid review, quantitative and qualitative.	We have only extracted the results where there is an impact on housing – we are not concerned with the interventions for the homeless that have a health or social care outcome.  Homeless people - mental illness One study, n=14, All the individuals in the intervention group maintained housed status at 3 and 6 months following hospital discharge. All but one participant in the control group remained homeless after 3 and 6 months (p < .001).  Homeless people – substance misuse One intervention - no housing outcomes. Second intervention not housing, third intervention compared abstinence contingent housing with non-abstinence contingent housing finding days housed increased for all groups but only 34.1% stably housed at 12 months “since limited housing spaces were available for participants with imperfect abstinence histories during the study period”  Homeless people – mental illness and substance misuse Pathways Housing First (n=225) . “Over a 24 month period, the Pathways Housing First group spent 66% less days homeless compared to baseline (p <	Of the 84 studies identified, only the 10 strongest were included in the review.  Housing status was not the primary outcome of interest – the review focus was about improving access to healthcare and then what effect this might have on housing status, so many of the included studies only briefly mentioned housing.  “New data included in this review indicates that provision of housing is associated with decreased substance use, relapses from periods of substance abstinence, health services utilization, and increased housing tenure. In addition, abstinence-contingent housing appears to provide greater impact on sustained abstinence than non-abstinencecontingent housing”

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								<p>.001)"</p> <p>Homeless people with HIV Housing was found to significantly impact survival rates for people with an AIDS diagnosis. Five year survival was 67% for persons who were homeless at diagnosis compared with 81% for housed persons (p &lt; .0001). After adjusting for potentially confounding variables, homelessness was significantly associated with increased mortality (Relative Hazard [RH] 1.20; 95% Confidence Limits [CL] 1.03, 1.41).</p> <p>Housing Opportunities for People with AIDS (HOPWA) rental assistance with case management (n = 315) or usual care described as customary housing services with case management (n = 315). At 18 months, both groups showed significant improvements in housing status (p &lt; .0001), with greater improvement for the intervention group than control (p &lt; .0001). The proportion of stably housed treatment group members increased from 4.44 to 88.22, while the control group increased from 4.14 to 50.58.</p>	

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Nelson/2007/85	Housing – one intervention compared with two other non housing interventions  Wellbeing – focus of this review was on housing. Wellbeing outcomes reported narratively.	The effectiveness of three interventions (permanent supportive housing, assertive community treatment and intensive case management) for homeless people with severe mental illness.	Severe mental illness and homeless.  N=16  Experimental or quasi experimental – there must be a control group as well as an intervention group.	US.  Participants were the homeless with severe mental illness  All studies published by December 2004	Stable housing (e.g. living in independent housing, living in permanent housing, number of days housed)	Housing interventions for people with mental illness who have been homeless.  (1) Permanent housing and support,  Also looked at (2) assertive community treatment (ACT) and (3) intensive case management (ICM) in terms of their effect on housing	Calculation of effect sizes for housing outcome measures for housing outcomes only	“The best outcomes for housing support were found for programs that combined housing and support (effect size .67), followed by ACT alone (effect size .47) then ICM programs alone (effect size .28).  Housing and support interventions (n=10) All US. Mixed gender and age. Better outcomes for those in intervention groups. Better outcomes if participating in both parts of the intervention (permanent housing and support)  ACT and ICM (n=8) 2 also in above group Both of these interventions showed better housing outcomes than when compared with the control groups.	“In terms of the most effective approach in reducing homelessness, it appears that providing permanent housing and support is the most successful approach”  Provision of permanent housing, as opposed to housing during healthcare treatment only has a positive effect on housing status, as compared with no effect.

### Housing needs of specific groups

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Addis/2009/4972	Health, social care and HOUSING needs of Lesbian, Gay, Transgender older people	To identify and map key issues for lesbian, gay, bisexual and transgender (LGBT) older people's health, social care and housing needs to provide baseline knowledge to inform policy and define research questions	The following inclusion criteria were applied: 1 papers published between 1985 and 2005; 2 studies which had been independently funded; 3 studies which examined health, social care or housing needs of either lesbian, gay, bisexual or transgender people, or all of these groups; 4 studies which used recognised qualitative or quantitative methods and validation.  66 studies	Papers published 1985-2005.	Housing situation in terms of housing needs.  Measures are not objective – mostly reporting of small observational studies.		Meta narrative review. The meta-narrative review method was selected in order to provide a structure within which to compare and contrast data and opinion from diverse sources.	Direct copy and paste of the review findings relating to HOUSING Older lesbian and gay people are more likely to live alone than are their heterosexual peers (Cahill et al. 2001, Brookdale Centre on Aging – Hunter College, 1999, Rosenfeld, 1999 cited in Butler 2004:31). However, those people who live alone may have partners who live separately. US-based surveys have shown that 40–60% of gaymen and 45–80% of lesbian women have long-term partners at any one time (Cahill et al. 2001). Older people in general are concerned about loss of independence; for lesbian and gay people who have experienced discrimination or imposed treatment regimes, dependence on social care or institutionalization is suggested to be perceived as a real threat (Taylor & Robertson 1994, Claes & Moore 2000). Consequently, older lesbian and gay people are reported to delay entering residential care (Claes & Moore 2000). Additionally, it is suggested that signs of affection between lesbian and gay people within residential institutions have not been understood by the staff and as result caused conflict (Brotman et al. 2003).	Review of many different types of evidence makes objective integrations and comparison of study findings challenging.  Inequalities in the way LGB people are treated persist and the literature cannot always accurately reflect this because it relies on people self reporting sexuality in the context of research studies. In addition, the review comments on how hetero focused services tend to be which marginalises these groups.  The major study conclusion is that the twin challenges of being part of this minority group and also growing older mean services need to be better suited for these groups.  Little of use in terms of housing policy making other than a general need for awareness of the needs of this specific group.
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Addis/2009/ 4972	Health, social care and HOUSING needs of Lesbian, Gay, Transgender older people	To identify and map key issues for lesbian, gay, bisexual and transgender (LGBT) older people's health, social care and housing needs to provide baseline knowledge to inform policy and define research questions	The following inclusion criteria were applied: 1 papers published between 1985 and 2005; 2 studies which had been independently funded; 3 studies which examined health, social care or housing needs of either lesbian, gay, bisexual or transgender people, or all of these groups; 4 studies which used recognised qualitative or quantitative methods and validation.  66 studies	Papers published 1985-2005.	Housing situation in terms of housing needs.  Measures are not objective – mostly reporting of small observational studies.		Meta narrative review. The meta-narrative review method was selected in order to provide a structure within which to compare and contrast data and opinion from diverse sources.	Direct copy and paste of the review findings relating to HOUSING  Older lesbian and gay people are more likely to live alone than are their heterosexual peers (Cahill et al. 2001, Brookdale Centre on Aging – Hunter College, 1999, Rosenfeld, 1999 cited in Butler 2004:31). However, those people who live alone may have partners who live separately. US-based surveys have shown that 40–60% of gaymen and 45–80% of lesbian women have long-term partners at any one time (Cahill et al. 2001).  Older people in general are concerned about loss of independence; for lesbian and gay people who have experienced discrimination or imposed treatment regimes, dependence on social care or institutionalization is suggested to be perceived as a real threat (Taylor & Robertson 1994, Claes & Moore 2000). Consequently, older lesbian and gay people are reported to delay entering residential care (Claes & Moore 2000).  Additionally, it is suggested that signs of affection between lesbian and gay people within residential institutions have not been understood by the staff and as result caused conflict (Brotman et al. 2003).	Review of many different types of evidence makes objective integrations and comparison of study findings challenging.  Inequalities in the way LGB people are treated persist and the literature cannot always accurately reflect this because it relies on people self reporting sexuality in the context of research studies. In addition, the review comments on how hetero focused services tend to be which marginalises these groups.  The major study conclusion is that the twin challenges of being part of this minority group and also growing older mean services need to be better suited for these groups.  Little of use in terms of housing policy making other than a general need for awareness of the needs of this specific group.
Aidala /2016/	Housing – physical and social environments in which everyday life is lived PLUS the economic, social and cultural determinants of housing	“the available empirical evidence on the association between housing status (broadly defined), medical care, and health outcomes among	Quantitative studies with at least one measure of housing status (independent variable) and at least one measure of health status	High income countries/ People with HIV/1996-2014	Outcomes adequate housing (material or social), stability, tenure.  29  Measures of health – (1) access and utilization of HIV medical care, (2) adherence to antiretroviral		2 CTs, 64 studies with a longitudinal design (55 prospective cohort studies, 6 retrospective	Access and utilization of medical care n=35 studies, 29 of the studies reported statistically significant associations between unstable housing and not receiving appropriate HIV	With rare exceptions, across studies in all domains, worse housing status was independently associated with worse outcomes, controlling for a range of

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Addis/2009/ 4972	Health, social care and HOUSING needs of Lesbian, Gay, Transgender older people	To identify and map key issues for lesbian, gay, bisexual and transgender (LGBT) older people's health, social care and housing needs to provide baseline knowledge to inform policy and define research questions	The following inclusion criteria were applied: 1 papers published between 1985 and 2005; 2 studies which had been independently funded; 3 studies which examined health, social care or housing needs of either lesbian, gay, bisexual or transgender people, or all of these groups; 4 studies which used recognised qualitative or quantitative methods and validation.  66 studies	Papers published 1985-2005.	Housing situation in terms of housing needs.  Measures are not objective – mostly reporting of small observational studies.		Meta narrative review. The meta-narrative review method was selected in order to provide a structure within which to compare and contrast data and opinion from diverse sources.	Direct copy and paste of the review findings relating to HOUSING Older lesbian and gay people are more likely to live alone than are their heterosexual peers (Cahill et al. 2001, Brookdale Centre on Aging – Hunter College, 1999, Rosenfeld, 1999 cited in Butler 2004:31). However, those people who live alone may have partners who live separately. US-based surveys have shown that 40–60% of gaymen and 45–80% of lesbian women have long-term partners at any one time (Cahill et al. 2001). Older people in general are concerned about loss of independence; for lesbian and gay people who have experienced discrimination or imposed treatment regimes, dependence on social care or institutionalization is suggested to be perceived as a real threat (Taylor & Robertson 1994, Claes & Moore 2000). Consequently, older lesbian and gay people are reported to delay entering residential care (Claes & Moore 2000). Additionally, it is suggested that signs of affection between lesbian and gay people within residential institutions have not been understood by the staff and as result caused conflict (Brotman et al. 2003).	Review of many different types of evidence makes objective integrations and comparison of study findings challenging.  Inequalities in the way LGB people are treated persist and the literature cannot always accurately reflect this because it relies on people self reporting sexuality in the context of research studies. In addition, the review comments on how hetero focused services tend to be which marginalises these groups.  The major study conclusion is that the twin challenges of being part of this minority group and also growing older mean services need to be better suited for these groups.  Little of use in terms of housing policy making other than a general need for awareness of the needs of this specific group.

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Addis/2009/ 4972	Health, social care and HOUSING needs of Lesbian, Gay, Transgender older people	To identify and map key issues for lesbian, gay, bisexual and transgender (LGBT) older people's health, social care and housing needs to provide baseline knowledge to inform policy and define research questions	The following inclusion criteria were applied: 1 papers published between 1985 and 2005; 2 studies which had been independently funded; 3 studies which examined health, social care or housing needs of either lesbian, gay, bisexual or transgender people, or all of these groups; 4 studies which used recognised qualitative or quantitative methods and validation.  66 studies	Papers published 1985-2005.	Housing situation in terms of housing needs.  Measures are not objective – mostly reporting of small observational studies.		Meta narrative review. The meta-narrative review method was selected in order to provide a structure within which to compare and contrast data and opinion from diverse sources.	Direct copy and paste of the review findings relating to HOUSING  Older lesbian and gay people are more likely to live alone than are their heterosexual peers (Cahill et al. 2001, Brookdale Centre on Aging – Hunter College, 1999, Rosenfeld, 1999 cited in Butler 2004:31). However, those people who live alone may have partners who live separately. US-based surveys have shown that 40–60% of gaymen and 45–80% of lesbian women have long-term partners at any one time (Cahill et al. 2001).  Older people in general are concerned about loss of independence; for lesbian and gay people who have experienced discrimination or imposed treatment regimes, dependence on social care or institutionalization is suggested to be perceived as a real threat (Taylor & Robertson 1994, Claes & Moore 2000). Consequently, older lesbian and gay people are reported to delay entering residential care (Claes & Moore 2000).  Additionally, it is suggested that signs of affection between lesbian and gay people within residential institutions have not been understood by the staff and as result caused conflict (Brotman et al. 2003).	Review of many different types of evidence makes objective integrations and comparison of study findings challenging.  Inequalities in the way LGB people are treated persist and the literature cannot always accurately reflect this because it relies on people self reporting sexuality in the context of research studies. In addition, the review comments on how hetero focused services tend to be which marginalises these groups.  The major study conclusion is that the twin challenges of being part of this minority group and also growing older mean services need to be better suited for these groups.  Little of use in terms of housing policy making other than a general need for awareness of the needs of this specific group.

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Milloy 2012 9563	Homelessness or marginal housing  Wellbeing = physical health (health status, HAART access/adherence and	To investigate "the relationships between inferior housing and the health status, HAART access and adherence and HIV treatment outcomes of	PLWHA  Not given  Not given		Not applicable  32			Poorer housing status is linked to worse health status in a wealth of studies involving PLWHA. poorer housing status is correlated with not receiving optimal HIV care	Study is not presented by health outcome.  "inferior housing status is a pervasive experience for PLWHA and is strongly correlated with lower rates of

## Economic housing situation

Author/ Year/ Paper ID	Dimensions (housing and wellbeing)	Objective/ research question/ review aim	Inclusion criteria/ number of studies included/ type of studies included	Setting/ Participants/Population/ Years	Outcomes measured (HOUSING ONLY)  Measures of health/wellbeing (whether objective, subjective or otherwise validated)	Intervention (HOUSING ONLY)	Synthesis methods	Review outcomes (HOUSING ONLY)	Study type comments/Conclusions/ research recommendations
Lindberg (2010) #16524	<p>Housing: Neighbourhood level housing interventions aimed at producing 'healthy homes'.</p> <p>Wellbeing: Physical health Social, economic and environmental wellbeing</p>	To assess the effectiveness of neighbourhood level housing interventions in improving health.	<p>Inclusion criteria: <i>'neighborhood-level housing interventions or policies that either directly or indirectly through mediating factors may improve health.'</i></p> <p>Number of studies: Not reported</p> <p>Types of studies: Not reported as inclusion criteria.</p> <p>Longitudinal data for MTO and HOPE VI.</p> <p>Population-based data for HCVP.</p>	<p>Setting: US</p> <p>Participants / population: Not stated</p> <p>Years: Not stated.</p>	<p>Physical health (including indirect measures (e.g. overcrowding, physical activity), objective (e.g. levels of obesity), self-reported perceived health.</p> <p>Mental health (self-reported)</p> <p>Social capital (social, economic, environmental wellbeing)</p>	<p>Housing Choice Voucher Programme (Section 8) (HCVP)</p> <p>Housing mobility / relocation programmes (Move to Opportunity (MTO)), (Housing and Urban Development (HOPE VI)</p> <p>Universal design for homes.</p> <p>Smart growth and connectivity designs.</p> <p>Residential siting away from highways</p> <p>Zoning</p> <p>Density bonuses</p> <p>Green space around housing</p>	Narrative synthesis reported according to strength of evidence.	<p>Significant reduction in mean number of people per room (HCVP compared with unregulated housing).</p> <p>Significant reduction in mean rent as percentage of income (HCVP vs unregulated housing).</p> <p>Self-reported 'better health' (MTO experimental group vs control group), (HOPE VI programme, though still significantly below national average).</p> <p>Mixed results for health behaviour (smoking and substance abuse) (improved for girls, worsened for boys (MTO)).</p> <p>No evidence of improved health for remaining interventions.</p> <p>Mixed results for mental health (self-reported improved mental health in girls aged 12-19 (MTO)), persistent mental health problems (HOPE VI).</p> <p>Social capital. Increased perceived safety (MTO, HOPE VI). Inconsistent impact on educational outcomes (MTO) No impact on employment rates (HOPE VI)</p>	<p>Study type comments: None beyond reporting no evidence of effect for some interventions.</p> <p>Conclusions: Evidence supports the expansion of HCVP Program.</p> <p>Research recommendations: Further field evaluation for MTO and HOPE VI) Further formative research for remaining interventions.</p>

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Narine 2014 #16165	Housing: Home ownership Home values  Wellbeing: Health Financial capital	To review health and financial capital disparities in home ownership and home values between Whites and minority populations (African-American, Hispanics, Asians).	Inclusion criteria: Not stated  Number of studies included: Not stated  Types of studies included: Not stated	Setting: US  Participants / population: African-American, Hispanic, Asian populations	Predictors of home ownership and value:  Human capital perspective: differential levels of success in labour market, disability, health status  Financial capital perspective: Income, inheritance, savings, interests and rents.  Discrimination practices perspective: Segregation, lending practices  Assimilation perspective: Social and economic assimilation, mobility.  Housing policy: Redlining, mortgages.	N/A	Narrative synthesis	None reported.	Study type comments: None reported.  Conclusions: Important that policy makers understand if and how determinants of housing ownership have changes between the 1990 and 2010 census periods. The perspectives described have been relatively understudied in the past.  Research recommendations: Future research that examines the relative importance of sets of variables corresponding to the aforementioned perspectives will be important in informing targeted policies to address factors that make the most difference to a group.

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Sautkina, 2012	Housing: Mixed tenure  Wellbeing: Social capital, human capital, residential, environmental, crime and safety, economic outcomes.	Effects of mixed tenure policy and circumstances on social capital, human capital, residential, environmental, crime and safety, economic outcomes.  Types and quality of study from which evidence is derived.	Mixed tenure effects. 1995-2009 (start date justified). Qualitative and quantitative studies of any design using primary or routinely collected data.  27 included studies. 24/27 primary studies 3/27 routinely collected data.  Predominantly cross-sectional.	UK (England 71%, Scotland 29%) 97 'small areas' Predominantly urban?  Participants / population?: Resident and professional participants.	Social capital Human capital Residential Environmental Crime and safety Economic outcomes	Mixed tenure. (Various mix characteristics)	Narrative synthesis	Social capital: Stronger evidence. Maintenance of local kinships networks; interaction between residents thro' shared amenities (schools etc.); spatial integration; effect of cross-tenure attitudes/interactions are mixed; no effect on social capital.  Human capital: Stronger evidence. No effect on health outcomes.  Residential: Stronger evidence. Positive effect of property values; Mixed effect on housing satisfaction; mixed effects on residential satisfaction and residential turnover.  Environmental: Stronger evidence. Mixed effects on neighbourhood and services/amenities satisfaction.  Crime and safety: Stronger evidence. Mixed effects on perceived crime/anti-social behaviour.  Economic outcomes: Stronger evidence. Mixed effects for employment rates, job opportunities, income mix.	Study type comments: Overall low quality evidence: Cross sectional, no quantitative analysis, particularly on confounding factors, few comparative studies, generally poor quality reporting of methods.  Conclusions: Difficult to make firm generalisations due to quality of evidence and heterogeneity of studies.  Recommendations: Longitudinal community studies / surveys incorporating secondary data sources and appropriate methods of data analysis.

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Tsai (2015) #644	Housing: Home foreclosure  Wellbeing: Mental health (including health behaviour) Physical health Domestic violence / child abuse	To assess the impact of home foreclosure on physical health and mental health.	Inclusion criteria: Quantitative or qualitative analysis of the relationship between home foreclosure and physical or mental health.  35 studies.  6/35 (17%) qualitative  29/35 (83%) quantitative (13/35 (37%) longitudinal, 14/35 (40%) cross-sectional, 2/35 (6%) case-control.  8/35 (23%) aggregate level data, 27/35 (77%) individual level data (including 5/35 (14%) multilevel data)	32/35 (91%) examined US populations.  1/35 (3%) examined British population	'Mental health related outcome' (24/32 (75%))*  Physical health outcome (10/32 (31%))*  Health behaviour outcome (4/32 (13%))*  Domestic violence / child abuse (3/32 (9%))*  *Reported figures for studies (32/35(91%)) reporting adverse outcomes	N/A	Narrative review	Mental health / health behaviour (including substance abuse): 25/25 (100%) worsened outcomes associated with home foreclosure including depression, anxiety, alcohol use, psychological distress, suicide, stress, shame.  Physical health: 10/12 (83%) worsened health outcomes associated with home foreclosure, mainly self-rated health and including unhealthy behaviours (e.g. smoking) and financial trade-offs resulting in unmet medical needs.  Multilevel data studies: Correlated aggregate level exposures (e.g. county-level foreclosure rate) with individual-level outcomes (e.g. depression)	32/35 (91%) studies judged to be at risk of bias. Few studies accounted for unobserved confounding (e.g. poor health as a determinant, as well as an outcome, of foreclosure, exacerbation by other stressful life events such as job loss).  Despite risk of bias, the general direction of results suggests foreclosure has negative impact on mental and physical health.  Studies based on multilevel data suggested degradation of the neighbourhood environment and increase in community stressors had indirect cross-level (individual level) effects on adverse effects on health and mental health.  Only two studies examined impact on black and Latino families. Impact of foreclosure on ethnic or racial minority populations identified as an important gap in research.

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Varady (2010) #16497	Housing: Housing voucher programmes.  Wellbeing: Mobility (poverty and racial minority deconcentration)  Social mobility (benefit from middle class role models and middle class social networks e.g. improved educational outcomes)  Self-sufficiency (increased earnings, increased employment)	To evaluate housing vouchers as a strategy for helping low income families move to better neighbourhoods and towards self-sufficiency.	Inclusion criteria: Not stated.  Number of included studies: Not stated  Types of studies included: Not stated (beyond 'scholarly literature')	United States  Participants in housing mobility programmes  Research published since 2002	Measures of housing: Affordable housing 'Decent' housing  Measures of wellbeing: (not defined in paper as measures of wellbeing):  Mobility (resulting in poverty and racial minority deconcentration)  Social mobility (e.g. improved educational outcomes)  Self-sufficiency (increased earnings, increased employment, reduced reliance on welfare)	Housing voucher programmes (for private rental properties, where the voucher recipient has the choice to move to properties / neighbourhoods within the voucher scheme).  Specific schemes:  Housing Choice Voucher Program (HCVP)  Gautreaux Programs I & II  Moving to Opportunity (MTO)	Narrative synthesis	Affordable housing: Some evidence. (38% of HCVP households spent 31% of income on housing versus 47% two years earlier)  Decent housing (decent, safe, reduced overcrowding): Yes (HCVP-occupied housing has to meet minimum quality standards)  Mobility: No evidence. Number of obstacles cited that prevented voucher holders from 'leasing-up' to 'better' neighbourhoods / opportunity areas. (e.g. lack of knowledge of new areas, wish to stay close to familiar surroundings, transportation difficulties, 'difficult-to-place' families, NIMBYism, racial discrimination, voucher programme discrimination, fragmented administration of voucher program).  High percentage of 'secondary moves' amongst voucher holders who did 'lease-up', high percentage of which moved back to high poverty / non-opportunity areas.  Social mobility: No evidence of benefit from middle class role models and middle class social networks. Suggestion that 'neighbourhood effect' and cooperation between owners and renters tends to be about community / residential issues rather than personal issues (e.g. increased knowledge re. employment).  Self-sufficiency: No evidence. Some suggestion that voucher schemes can make participants more welfare dependent.	Study type comments: None.  Conclusions: Voucher schemes should focus on providing affordable and decent housing, not mobility, social mobility and self-sufficiency.  Voucher schemes require other interventions working in conjunction to overcome some obstacles and achieve broader aims (e.g. relocation counselling, employment schemes etc.)  Research recommendations: None stated. Suggestions made of adaptations to voucher programme schemes.

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Varady (2013) #15265	Housing: Counselling and support services as part of voluntary housing mobility programmes (housing vouchers)  Wellbeing: Clustering and 'negative spillover effects' in destination neighbourhoods	To evaluate counselling, support services and other mechanisms, as part of voluntary housing mobility programmes, in terms of preventing clustering and negative spillover effects.	Inclusion criteria: Not stated.  Number of included studies: Not stated  Types of studies included: Not stated (beyond 'books, journal articles, professional papers, technical reports and news stories)	Setting: United States.  Participants / population: Participants in 4 voluntary housing mobility programmes: Gautreaux 1 Gautreaux 2  MTO (Moving to Opportunity)  BHMP (Baltimore Housing Mobility Program)  Years: (1976-2013)	Clustering  Negative spillover effects defined as: <i>'problems that are due to an influx of relocatees with specific characteristics (poverty, problematic behaviour), including lower property values, higher incidence of crime, vandalism and incivilities, culture clashes and lower test scores in local schools.'</i>  Community opposition	Limiting clustering (threshold of influx into a new neighbourhood)  Screening for problematic families  Counselling and advice to participants (for 1 move and subsequent moves)  Landlord recruitment, outreach and cooperation	Narrative synthesis	Clustering: Mechanisms appeared effective in reducing 2 <sup>nd</sup> moves back to areas with high poverty / racial concentrations. BHMP (good range of supportive mechanisms, particularly counselling) = successful Gautreaux 2 and MTO = not successful  Spillover effects: Overall few spillover effects, with exception of boys' anti-social behaviour in Gautreaux 2 and MTO.  Community opposition: Initial opposition / controversy but quick dissipated.	Study type comments: Little in the way of objective, empirical evidence. Research evidence is tentative.  Conclusions: Tentative conclusions that supportive mechanisms can avoid negative spillover and clustering.  Other factors may affect impact of programmes and explain differences between programmes. (e.g. general state of economy).  Research recommendations: Impact of counselling on integration of participants in new neighbourhood.  Impact of type of programme on clustering.  Definition of threshold for influx of families.  Cause and effect relationships between programmes and different aspects of negative spillover.

## Neighbourhood/urban regeneration

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Johnson 2012 #15306	Housing: Neighbourhood and institutional relationships in an ecological context (focussing on schools as the institution but (i) generalising to public housing as the institution and (ii) including public housing as an element of the neighbourhood ).  Wellbeing: Educational outcomes	To examine neighbourhood-institutional relationships within an ecological context.  To review the relative importance of neighbourhoods and schools to educational outcomes.	Inclusion criteria: Research published in journals or as agency reports plus: (i)Neighbourhood features or residency as predictors or treatments. (ii)educational outcomes (iii)1960 or later (iv) US samples  Number of studies: 23 (4 providing evidence on housing / residency as neighbourhood features)  Types of studies: Not stated	Setting: US  Participants / population: Not stated	Range of educational outcomes including: Test scores, grades, conduct (incl. attendance, dropping out)	N/A	Narrative synthesis	Housing related neighbourhood effects (e.g. residential stability, housing mobility to low poverty areas, public housing and area poverty) had greater impact on educational outcomes than school-related characteristics.  Approx. half of included studies (~12/23) reported larger neighbourhood effects than school effects.  5/23 studies reported larger school effects than neighbourhood influences  Remainder (~6/23) reported equal or undetermined relative strengths of school vs neighbourhood influences.	Study type comments: Reports ' <i>numerous methodological issues that could lead to an under- or overestimation</i> ' of the relative influence of school and neighbourhood. Studies don't take account of the ecological context and the indirect pathways and bidirectional flow of institution/neighbourhood influence (e.g. characteristics of school may influence house prices and choice of residence therefore contribute to economic status of neighbourhood).  Conclusions: Findings are informative but conclusions are complicated by methodological uncertainties.  Future research: Neighbourhood /institutional effects research needs innovation in conceptualizing neighbourhood-school relationship as a social process.
Milton et al. (2012) #15305	Housing: Community engagement initiatives  Wellbeing: Social determinants of health	To review the population impact of initiatives which aim to engage communities in action to improve the social determinants of health.	Inclusion criteria: community engagement in relation to the planning, design, delivery or governance of initiatives aiming to address the	Setting: UK  Participants/population: 'Communities' (not individuals)	Social determinants of health defined as:  Primary: Individual and population health Health related risk factors Environmental and socio-economic indicators (e.g. housing)	Housing management initiatives:  Tenant management organisations (TMOs)	Narrative synthesis	None of the studies presented data on the primary measures.  Positive impact on housing management (completion of repairs, rent collection and re-letting, cleaning and caretaking)  Positive impact in terms of perceptions of crime	Study type comments No high level evidence that would have enabled attribution of outcomes to community engagement interventions.  All studies generated data at a single time point. No

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			<p>determinants of health defined as: neighbourhood renewal, housing or the built environment, transport, employment, social inclusion or capital, empowerment or capacity building, poverty, accident or substance abuse prevention.</p> <p>Number of studies: 13 (5/13 housing studies covering 4 interventions of which 3 studies quantitative survey with qualitative methods, 2 multiple case studies)</p> <p>Types of studies: Reviews, quantitative and qualitative primary studies. (Housing = 3mixed methods 2 multiple case studies)</p>	<p>Years: 1990-2007</p>	<p>Health inequalities within/between communities</p> <p>Intermediate: Level/diversity of community members engaged Communication between community and service providers Rates of service uptake or new services reflecting community-perceived needs Identification of community needs Community engagement (meeting members' expectations of involvement) Enhanced social inclusion, cohesion or capital Enhanced community well-being (e.g. sense of empowerment) Partnerships between communities, institutions and governments</p>	<p>Tenant participation compacts (TPCs)</p> <p>Community-ownership social housing</p> <p>Estates Renewal Challenge Fund</p>		<p>and neighbourhood safety.</p> <p>No conclusive evidence of impact on services.</p> <p>Suggested benefits for 'bonding' social capital (strengthening relationships and trust) and social cohesion.</p> <p>Engagement. Suggested benefits for involvement of black and minority ethnic community members. Insufficient evidence of 'reach' beyond existing community groups.</p> <p>Enhanced community wellbeing. Suggested increased community empowerment by increasing members' sense of political efficacy.</p>	<p>longitudinal data. Data collected by those who delivered interventions.</p> <p>Many studies involved multiple initiatives with insufficient controlling for confounding factors. No evidence of one initiative (i.e. housing or otherwise) more effective than others.</p> <p>Limited descriptions of interventions.</p> <p>Conclusions Evidence that initiatives have positive impacts on housing management and perceptions of crime. Limited quality of evidence. Caution required in attributing outcomes to community engagement.</p> <p>Research recommendations Future studies should collect comparative, longitudinal or before-and-after data.</p> <p>Methodological development required for more robust evaluation of population level impact.</p>

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Thomson et al., 2006	Urban regeneration programmes  Health Socioeconomic determinants of health*	Impact of urban regeneration programmes on population health, socioeconomic determinants of health and health inequalities.	19 evaluations** of which:  9 prospective evaluations  17 case study approach  10 reported impact on direct health and socioeconomic outcomes	Urban areas in the UK  Adults and children.  1980-2004.	Health: Self-reported health status (including quality of life, wellbeing, health, morbidity); Mortality.  Socioeconomic determinants of health: housing, education, training, income, employment.	9 Urban regeneration programmes (Area Based Initiatives).  2/9 housing led regeneration initiatives.  3/9 multi-agency initiatives including housing	Narrative synthesis  Narrative quality assessment.	Health: Mixed (Health status deterioration; mortality improvement)  Socioeconomic determinants of health:  Employment: Mixed and inconsistent results, including across case study areas within studies.  Educational attainment: Mixed. Some improvement though no improvement when compared with national data.  Household income: Overall improvement though mixed across case study areas.  Impacts on housing quality and rent: Increase in average social housing rent.	Study type comments: Impact evaluations of initiatives are problematic. Impact data are inadequate and difficult to collect.  Conclusions: Where impacts have been assessed a small overall positive impact is suggested though adverse impacts are also possible.  Research recommendations: Evaluations need to incorporate clear theories of change. Assessment of impacts on original residents of target areas is required.

## Housing design and the home environment

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Kaushal and Rhodes (2014) #1357	Home physical environment Adult and child physical activity (PA) and sedentary (SD) behaviour	To examine how home physical environment relates to adult and child PA and SD behaviours.	Investigated the presence of PA (i.e. exercise equipment, exergaming device) or SD (i.e. television, videogames) equipment and PA or SD behaviour  49 studies (20 experimental and 29 observational design)	Family home  1999-2014	PA or SD behaviour	TV limiting devices Exercise equipment Exergaming materials	Systematic review	<p>Experimental studies 3 studies implemented a TV limiting device, 2 found device to be effective for reducing television time among children with medium effect sizes, the study that measured adults also found limited evidence that it successfully reduced TV time.</p> <p>17 intervention studies aimed to facilitate PA in home. Large exercise equipment (treadmills) had more effect than smaller devices. There was inconclusive evidence for exercise DVDs and further research with stronger methodology is needed.</p> <p>A number of studies modified an SD device to increase physical activity (making a video games console an exergaming system). Larger and prominent exergaming materials (exergaming bike, dance mat) were found to be more effective than smaller devices.</p> <p>Observational studies These studies revealed that location and quantity of televisions correlated with SD behaviour with the latter having a greater effect on girls.</p> <p>14 studies investigated the association between quantity of home PA equipment and PA behaviour, divided into exercise equipment and physical activity materials. Significant effects were found for all types of exercise equipment at home but only for adult females. 6 studies investigated presence PA materials on PA again the accessibility, density, quantity of materials predominantly predicted PA in girls.</p>	Developing stronger RCTs, investigating the location of PA equipment & examine mediators of gender discrepancy found in current studies.

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Maitland et al (2013) #2243	Home physical environment Child (8-14 years) physical activity (PA) and sedentary (SD) behaviour	To examine how home physical environment relates to child PA and SD behaviours.	Healthy children n aged 8-14 years  Outcome variable of sedentary behaviour or PA  Observational studies had to include at least 1 home physical environmental factor as an independent variable and examine an association between that and the outcome variable.  Experimental studies were included if they contained at least strategy that changed home physical environment and reported changes from baseline in outcome variable.  38 observational (33 cross-sectional and 5 longitudinal) and 11 experimental studies were included.	Family home  Children aged 8-14 years  2005-2011	PA or SD behaviour – most common TV watching and moderate to vigorous physical activity	Strategy to change home physical environment: introduction of TV limiting device, introduction of active video gaming (ACG)	Systematic review	Observational studies  The home physical environment  Media equipment in the home was positively associated with children's sedentary behaviour in 10 of 16 studies. 9 of 18 studies on bedroom media equipment found a positive association with sedentary behaviour. 1 also found an inverse relationship between a bedroom TV and reading. Limited and inconsistent associations were found between media equipment in the home and PA outcomes. 2 longitudinal studies found no association between media equipment and PA. PA equipment was positively associated with PA outcomes in 4 of 11 studies but no association was found in the 2 longitudinal studies. PA equipment was inversely associated with SB but no longitudinal studies investigated this relationship. 2 of 6 cross-sectional studies found yard space to be positive associated with a PA measure and 1 found living in an apartment was negatively associated.  Home social environmental variables. Family rules, family social support & family behaviours. Studies found significant relationships between the home social environment and sedentary behaviours and to a lesser extent PA, after adjusting for home physical environment factors.  Experimental studies  Television limiting device were found to successfully reduce TV viewing. 2 of these studies found that the device didn't significantly	Further studies should include objective measures of the home and prioritise investigating environmental influences within the home space on objectively measured sedentary time at home and home context specific behaviours.  Further studies to investigate the long term effects of introducing AVG or limited TV viewing.  Further studies need to investigate home context specific outcomes.  Further studies need to consider ways to objectively measure the home physical environment.

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								change children's sedentary behaviours but did significantly reduce overall household TV watching.  Studies found that the impact of introducing active video games on activity outcomes was inconsistent.	

### Independent living – older people

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Beswick et al (2008) #5921	Housing – community-based multifactorial interventions  Wellbeing - Independent living	To assess the effectiveness of community-based complex intervention in preservation of physical function and independence in older people.	Multifactorial interventions based in community for elderly people living at home or preparing for hospital discharge to home. Follow-up for at least 6 months RCTs 89 trials 1945-2005	Community  Elderly people (mean age at least 65 years)	Living at home Nursing home and hospital admissions Fall Physical function	Community-based multifactorial interventions Geriatric assessment in general or frail elderly populations, community-based care after hospital discharge, fall prevention, or group education and counselling	Systematic review Meta-analysis	Interventions reduced the risk of not living at home (relative risk [RR] 0.95, 95% CI 0.93-0.97), reduced nursing-home admissions (0.87, 0.83-0.90), but not death (1.00, 0.97-1.02). Interventions also reduced risk of hospital admissions (0.94, 0.91-0.97) and falls (0.90, 0.86-0.95). Physical function was better in the intervention groups than in other groups (standardised mean difference -0.08, -0.11 to -0.06).	Evidence did not suggest that one format of care provision was better than another, possibility might exist to tailor different formats of care to the needs and preferences of the individual.
Chase et al (2012) #15322	Housing – home modification  Wellbeing – Independent living	To investigate the impact of fall prevention programs and home modification on falls and the performance of community-dwelling older adults	Older adults living in community Interventions studies could be delivered by an occupational therapist Falls prevention or home modification intervention	Community  Older adults  1990-2008 and subject experts recommended articles from 2009-2011	Rate of functional decline Fear of falling Balance Strength	Home evaluations and modifications alone and as a component of falls prevention programs  Home assessment and modifications interventions included hazard	Narrative review	Multifactorial interventions – There is strong evidence that multifactorial approaches reduce falls and difficulties with ADLs and IADLs in older adults is strong.  Home assessment and Home Modifications – Evidence that home modifications interventions reduce falls and maintain and promote ADL and IADL performance is moderate.	More research is needed that explores the impact of home modification on falls prevention in all areas of occupation  Home modification studies have often missed opportunity to measure outcomes related to maintained or increased

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			33 included studies 31 RCTs, 2 Level II studies			identification, structural changes to inside and outside of the home and provision assistive technology and devices.  Multifactorial falls prevention interventions varied but often incorporate several of the following approaches: home modifications, education on health and safety, medicine management, vision management, gait and balance training and exercise.		Evidence also indicates that the subgroup of frequent fallers showed the greatest benefits from individual and multifactorial intervention.	ability to complete ADLs or IADLs.  The use of standardized outcome measures for functional status and safety in the home can provide more consistent way to examine change by assessing the wide range of environments in older adults participate, including home and community.  In general, a client-centred intervention plan that includes a mix of exercise, education, home modification and assistive technology is supported by the best evidence for falls prevention and occupational performance in community-dwelling older adults.
Gillespie et al (2012) #17452	Housing – home safety interventions	To assessed the effectiveness of interventions to reduce falls in older people living in the community	159 studies included. 13 evaluating the efficacy of environmental interventions alone 40 were multifactorial interventions, some included environmental interventions  Participants over 60 or mean age minus 1 SD more than 60.  Majority of participants living in community – at home or places of	Community Older people, 60+ 1990-2012	Primary outcomes: Rate of falls Number of fallers  Secondary outcomes: Number of participants sustaining fall-related fractures Adverse effects of the interventions Economic outcomes	Environment/assistive technology – adaptation to homes, provision of aids for personal care and protection and personal mobility, and aids for communication, information and signalling	Systematic review Meta-analysis	Environment/assistive technology Overall, home safety assessment and modification interventions were effective in reducing rate of falls (RaR 0.81, 95% CI 0.68 to 0.97; 4208 participants, 6 trials) and risk of falling (RR 0.88 95% CI 0.80 to 0.96; 4501 participants, 7 trials). No significant reduction was found in risk of fracture (RR 1.32, 95% CI 0.30 to 5.87; 360 participants, 1 trial).  Home safety interventions were more effective in reducing rate of falls in the participants at higher risk of falling (test for subgroup differences P = 0.0009). No evidence of difference in treatment effect between the subgroups for risk of falling (test for subgroup differences P=0.57).	Gaps include interventions addressing the management of urinary incontinence, foot problems, and dementia. Further research is required to increase implementation of effective interventions by healthcare professionals.

Author/ Year/ Paper ID	Dimensions (housing and wellbeing)	Objective/ research question/ review aim	Inclusion criteria/ number of studies included/ type of studies included	Setting/ Participants/Population/ Years	Outcomes measured (HOUSING ONLY)  Measures of health/wellbeing (whether objective, subjective or otherwise validated)	Intervention (HOUSING ONLY)	Synthesis methods	Review outcomes (HOUSING ONLY)	Study type comments/Conclusions/ research recommendations
			residence not providing health related care or rehabilitative services.  Any intervention to reduce falls compared with 'usual care', control intervention or another fall-prevention intervention.  RCTs and quasi-randomised trials					There was some evidence that occupational therapist led interventions were more effective than non-OT led interventions on rate of falls (test for subgroup differences P=0.07) and risk of falling (test for subgroup differences P=0.05).  Home safety interventions delivered by an occupational therapist resulted in a statistically significant difference in rate of falls (RaR 0.69, 95% CI 0.55 to 0.86; 1443 participants, 4 trials, and risk of falling (RR 0.79, 95% CI 0.70 to 0.91; 1153 participants, 5 trials).	
Haak et al (2011) #10332	Housing – Older people's experience of home Wellbeing – Participation, independence and health	To increase our understanding of home and health by exploring older people's experience of living at home.	Qualitative studies  4 complementary studies arising from the Swedish part of the ENABLE-AGE In-depth study	Sweden Single-living older people living in own home  80-89 years old.	Meaning of home autonomy, health, well-being & participation in old age.		Qualitative meta-synthesis	The study results showed that three intertwined processes take place in the context of <i>Homelike functional home</i> with the <i>Awareness of frailty</i> as a state of mind. Over time, the very old participants made use of three intertwined processes to maintain stability and facilitate changes in their lives: <i>The turning points</i> , <i>The struggle</i> and <i>the negotiations</i> . These three processes, take place in the context of the functional home and their awareness of their frailty, aiming at maintaining participation, independence and health in their own home.	Results can help to develop guidelines for more holistic approaches to housing provision for senior citizens.

### Independent living – intellectual disability and mental health

Author/ Year/ Paper ID	Dimensions (housing and wellbeing)	Objective/ research question/ review aim	Inclusion criteria/ number of studies included/ type of studies included	Setting/ Participants/Population/ Years	Outcomes measured (HOUSING ONLY)  Measures of health/wellbeing (whether objective, subjective or otherwise validated)	Intervention (HOUSING ONLY)	Synthesis methods	Review outcomes (HOUSING ONLY)	Study type comments/Conclusions/ research recommendations

Author/ Year/ Paper ID	Dimensions (housing and wellbeing)	Objective/ research question/ review aim	Inclusion criteria/ number of studies included/ type of studies included	Setting/ Participants/Populati on/ Years	Outcomes measured (HOUSING ONLY)  Measures of health/wellbeing (whether objective, subjective or otherwise validated)	Intervention (HOUSING ONLY)	Synthesis methods	Review outcomes (HOUSING ONLY)	Study type comments/Conclusions/ research recommendations
Browne and Hemsley 2010 13094	Consumer participation on housing for people living with mental illness	How best to involve people living with mental health issues in determining their housing situation.	n=7 (3 quantitative and 4 qualitative)	UK/US/Aus  People living with and recovering from mental illness  1999-2005		N/A		Strong desire to live in own home  Supportive housing has a positive impact on recovery through a number of different factors  Choosing housing encourages empowerment  Often poor correlation between staff and client housing goals	Consumer participation is not a common topic in the recent literature, despite the significant public policy push to promote it. The importance of appropriate housing to the recovery of people living with mental illness cannot be underestimated. Even well- meaning and well-resourced housing initiatives can fall short of meeting consumers ' recovery goals when they do not incorporate the expressed needs of consumers. These expressed needs include keeping units small in size and employing drop-in <i>support models</i>
Mansell and Beadle- Brown  2009  320	Dispersed community based housing compared with clustered housing  Eight quality of life domains: social inclusion, interpersonal relations, material well-being, emotional well-being, physical well-being, self- determination, personal development or rights	Comparing dispersed housing with clustered housing in terms of quality and cost.	Papers comparing dispersed community housing and clustered housing.  Papers considered a population of residents who had intellectual disability.  Papers evaluated outcomes for residents and/or costs of service provision.  10 studies (19 papers)  Quantitative or qualitative methodology	Four countries  Adults with intellectual disability  1990-2009	Outcomes measured on five of eight quality of life domains: social inclusion, interpersonal relations, material well- being, emotional well-being, physical well-being, self-determination, personal development or rights	Dispersed housing (housing in the community, typically a small group home where a number of people live together with support from paid staff)  Clustered housing (number of living units that form a spate community from the surrounding population)	Narrative synthesis  Findings organised into the domains of the quality of life framework and measures of service provision and cost	On the following quality of life domains: interpersonal relations, emotional, and physical well-being, clustered settings had some advantages. Mostly, though these refer to village communities and not to campus housing or clustered housing.  Generally, campus and cluster housing provided poorer outcomes than dispersed housing for people with intellectual disability. In terms of the quality of life domains of social inclusion, material well-being, emotional well- being, physical well-being, there were no studies that reported on the benefits of clustered settings.  Clustered housing is generally less expensive than dispersed housing due to lower staffing levels. Two of the three studies that examined	Dispersed housing superior on the majority of quality indicators.  Only exception is village communities for people with less severe disabilities have some benefits; this model is not feasible to provide for everyone though.  Clustered housing less costly but this is because it provides fewer staff hours per person. There is no evidence that cluster housing can deliver the same quality of life as dispersed housing at a lower cost.

Author/ Year/ Paper ID	Dimensions (housing and wellbeing)	Objective/ research question/ review aim	Inclusion criteria/ number of studies included/ type of studies included	Setting/ Participants/Population/ Years	Outcomes measured (HOUSING ONLY)  Measures of health/wellbeing (whether objective, subjective or otherwise validated)	Intervention (HOUSING ONLY)	Synthesis methods	Review outcomes (HOUSING ONLY)	Study type comments/Conclusions/ research recommendations
								costs, controlling for user characteristics there was no statistically significant difference.	Three significant research gaps: 1. no research on village communities that serve people with severe and complex needs 2. no research data on clustered settings for people with disabilities other than intellectual disabilities. 3. Most studies are point-in-time comparisons and therefore are unable to address whether services change or how they perform over time.

### Housing infrastructure and physical health

Author, Date, Ref ID	Research Question	Number of included studies	Years	Setting	Intervention	Outcomes	Abstract (copy and paste)
Kendrick 2012 #49	The effectiveness of home safety interventions in reducing child injury rates or increasing home safety practices	98 studies	1978-2010	Forty-nine (50%) studies were from the US, 14 from the UK (14%), six from Australia (6%), four (4%) each from Canada, South Africa and Sweden, three (4%) each from France and New Zealand, two (3%) each from Denmark and China, and one (1%) each from Singapore, Norway, Greece, Hong Kong, Israel, Italy and Mexico.	Education and equipment to promote safe hot tap water temperatures, functional smoke alarms, fire escape plans, storing medicines, storing cleaning products, access to syrup of ipecac, access to poisoning control centre numbers, fitted stair gates, socket covers on unused sockets.	Reduction in injury rates  Increase in safety practices	Background In industrialised countries injuries (including burns, poisoning or drowning) are the leading cause of childhood death and steep social gradients exist in child injury mortality and morbidity. The majority of injuries in pre-school children occur at home but there is little meta-analytic evidence that child home safety interventions reduce injury rates or improve a range of safety practices, and little evidence on their effect by social group. Objectives We evaluated the effectiveness of home safety education, with or without the provision of low cost, discounted or free equipment (hereafter referred to as home safety interventions), in reducing child injury rates or increasing home safety practices and whether the effect varied by social group. Search methods We searched the Cochrane Central Register of Controlled Trials (CENTRAL) (2009, Issue 2) in <i>The Cochrane Library</i> , MEDLINE (Ovid), EMBASE (Ovid), PsycINFO (Ovid), ISI Web of Science: Science Citation Index Expanded (SCI-EXPANDED), ISI Web of Science: Social Sciences Citation Index (SSCI), ISI Web of Science: Conference Proceedings Citation Index- Science (CPCI-S), CINAHL (EBSCO) and DARE (2009, Issue 2) in <i>The Cochrane Library</i> . We also searched websites and conference proceedings and searched the bibliographies of relevant studies and previously published reviews. We contacted authors of included studies as well as relevant organisations. The most recent search for trials was May 2009.

Author, Date, Ref ID	Research Question	Number of included studies	Years	Setting	Intervention	Outcomes	Abstract (copy and paste)
							<p>Selection criteria Randomised controlled trials (RCTs), non-randomised controlled trials and controlled before and after (CBA) studies where home safety education with or without the provision of safety equipment was provided to those aged 19 years and under, and which reported injury, safety practices or possession of safety equipment.</p> <p>Data collection and analysis Two authors independently assessed study quality and extracted data. We attempted to obtain individual participant level data (IPD) for all included studies and summary data and IPD were simultaneously combined in meta-regressions by social and demographic variables. Pooled incidence rate ratios (IRR) were calculated for injuries which occurred during the studies, and pooled odds ratios were calculated for the uptake of safety equipment or safety practices, with 95% confidence intervals.</p> <p>Main results Ninety-eight studies, involving 2,605,044 people, are included in this review. Fifty-four studies involving 812,705 people were comparable enough to be included in at least one meta-analysis. Thirty-five (65%) studies were RCTs. Nineteen (35%) of the studies included in the meta-analysis provided IPD.</p> <p>There was a lack of evidence that home safety interventions reduced rates of thermal injuries or poisoning. There was some evidence that interventions may reduce injury rates after adjusting CBA studies for baseline injury rates (IRR 0.89, 95% CI 0.78 to 1.01). Greater reductions in injury rates were found for interventions delivered in the home (IRR 0.75, 95% CI 0.62 to 0.91), and for those interventions not providing safety equipment (IRR 0.78, 95% CI 0.66 to 0.92). Home safety interventions were effective in increasing the proportion of families with safe hot tap water temperatures (OR 1.41, 95% CI 1.07 to 1.86), functional smoke alarms (OR 1.81, 95% CI 1.30 to 2.52), a fire escape plan (OR 2.01, 95% CI 1.45 to 2.77), storing medicines (OR 1.53, 95% CI 1.27 to 1.84) and cleaning products (OR 1.55, 95% CI 1.22 to 1.96) out of reach, having syrup of ipecac (OR 3.34, 95% CI 1.50 to 7.44) or poison control centre numbers accessible (OR 3.30, 95% CI 1.70 to 6.39), having fitted stair gates (OR 1.61, 95% CI 1.19 to 2.17), and having socket covers on unused sockets (OR 2.69, 95% CI 1.46 to 4.96). Interventions providing free, low cost or discounted safety equipment appeared to be more effective in improving some safety practices than those interventions not doing so. There was no consistent evidence that interventions were less effective in families whose children were at greater risk of injury.</p> <p>Authors' conclusions Home safety interventions most commonly provided as one-to-one, face-to-face education, especially with the provision of safety equipment, are effective in increasing a range of safety practices. There is some evidence that such interventions may reduce injury rates, particularly where interventions are provided at home. Conflicting findings regarding interventions providing safety equipment on safety practices and injury outcomes are likely to be explained by two large studies; one clinic-based study provided equipment but did not reduce injury rates and one school-based study did not provide equipment but did demonstrate a significant reduction in injury rates. There was no consistent evidence that home safety education, with or without the provision of safety equipment, was less effective in those participants at greater risk of injury. Further studies are still required to confirm these findings with respect to injury rates.</p>

Author, Date, Ref ID	Research Question	Number of included studies	Years	Setting	Intervention	Outcomes	Abstract (copy and paste)
Sauni R 2015 #83	The effectiveness of repairing buildings damaged by dampness and mould in order to reduce or prevent respiratory tract symptoms, infections and symptoms of asthma.	12 studies	2000 - 2012 Four studies were performed before 2000 and eight after this time.	Three studies were conducted in the US, four in Finland, one in Sweden, one in Ireland, one in New Zealand and two in the UK.	Remediation of damp buildings.	Respiratory tract symptoms  Respiratory tract infections  Asthma symptoms  Asthma-related symptoms	<p><b>Background</b> Dampness and mould in buildings have been associated with adverse respiratory symptoms, asthma and respiratory infections of inhabitants. Moisture damage is a very common problem in private houses, workplaces and public buildings such as schools.</p> <p><b>Objectives</b> To determine the effectiveness of repairing buildings damaged by dampness and mould in order to reduce or prevent respiratory tract symptoms, infections and symptoms of asthma.</p> <p><b>Search methods</b> We searched CENTRAL (2014, Issue 10), MEDLINE (1951 to November week 1, 2014), EMBASE (1974 to November 2014), CINAHL (1982 to November 2014), Science Citation Index (1973 to November 2014), Biosis Previews (1989 to June 2011), NIOSHTIC (1930 to March 2014) and CISDOC (1974 to March 2014).</p> <p><b>Selection criteria</b> Randomised controlled trials (RCTs), cluster-RCTs (cRCTs), interrupted time series studies and controlled before-after (CBA) studies of the effects of remediating dampness and mould in a building on respiratory symptoms, infections and asthma.</p> <p><b>Data collection and analysis</b> Two authors independently extracted data and assessed the risk of bias in the included studies. Remediating buildings damaged by dampness and mould for preventing or reducing respiratory tract symptoms, infections and asthma.</p> <p><b>Main results</b> We included 12 studies (8028 participants): two RCTs (294 participants), one cRCT (4407 participants) and nine CBA studies (3327 participants). The interventions varied from thorough renovation to cleaning only. Repairing houses decreased asthma-related symptoms in adults (among others, wheezing (odds ratio (OR) 0.64; 95% confidence interval (CI) 0.55 to 0.75) and respiratory infections (among others, rhinitis (OR 0.57; 95% CI 0.49 to 0.66), two studies, moderate- quality evidence). For children, we did not find a difference between repaired houses and receiving information only, in the number of asthma days or emergency department visits because of asthma (one study, moderate-quality evidence). One CBA study showed very low-quality evidence that after repairing a mould-damaged office building, asthma-related and other respiratory symptoms decreased. In another CBA study, there was no difference in symptoms between full or partial repair of houses. For children in schools, the evidence of an effect of mould remediation on respiratory symptoms was inconsistent and out of many symptom measures only respiratory infections might have decreased after the intervention. For staff in schools, there was very low- quality evidence that asthma-related and other respiratory symptoms in mould-damaged schools were similar to those of staff in non- damaged schools, both before and after intervention.</p> <p><b>Authors' conclusions</b> We found moderate to very low-quality evidence that repairing mould-damaged houses and offices decreases asthma-related symptoms and respiratory infections compared to no intervention in adults. There is very low-quality evidence that although repairing schools did not significantly change respiratory symptoms in staff, pupils' visits to physicians due to a common cold were less</p>

Author, Date, Ref ID	Research Question	Number of included studies	Years	Setting	Intervention	Outcomes	Abstract (copy and paste)
							frequent after remediation of the school. Better research, preferably with a cRCT design and with more validated outcome measures, is needed.
Pearson 2009 #17451	Effectiveness and cost-effectiveness of interventions involving the supply and/or installation of home safety equipment, and/or the provision of home risk assessments aimed at reducing unintentional injuries to children in the home.	22 studies	1992 - 2009	Thirteen of the 22 included studies were conducted in the US, five were conducted in the UK, two in Canada, one in France, and one in Australia	Supply and/or installation of home safety equipment, and/or the provision of home risk assessments	Injury rates Presence of correctly installed safety equipment Cost-effectiveness of interventions	<p>Introduction</p> <p>This report presents the findings of a systematic review about the effectiveness and cost-effectiveness of interventions (involving the supply and/or installation of home safety equipment, and/or the provision of home risk assessments) aimed at reducing unintentional injuries to children in the home.</p> <p>Aim</p> <p>The aim of this systematic review was to identify, critically appraise, and synthesise evidence relating to interventions involving the supply and/or installation of home safety equipment, and/or the provision of home risk assessments. Four research questions informed the review:</p> <ul style="list-style-type: none"> <li>•Which interventions involving the supply and/or installation of home safety equipment (free of charge or at a reduced cost) are effective and cost-effective in preventing unintentional injuries among children and young people aged under 15 in the home?</li> <li>•Are home risk assessments effective and cost-effective in preventing unintentional injuries among children and young people aged under 15?</li> <li>•What are the factors which either enhance or reduce the effectiveness of interventions involving the supply and/or installation of home safety equipment and/or home risk assessments, or which help or hinder their implementation? (effectiveness review)</li> <li>•What are the main causal relationships which seem to explain how the different combinations of resources (and levels of costs) of these interventions are related to intended outcomes (cost-effectiveness review)</li> </ul> <p>- 12 -PUIC Home: Review of effectiveness and Background cost-effectiveness</p> <p>Methods</p> <p>A single search strategy of bibliographic databases was used to identify both effectiveness and cost-effectiveness studies. In addition, a targeted search of named programmes was conducted. Screening of abstracts was conducted by one reviewer using the inclusion and exclusion criteria stated in the review protocol. Included studies were quality appraised using the NICE CPHE Methods Manual (2009) quantitative studies checklist (effectiveness review) or the Evers et al (2005) checklist (cost-effectiveness review). Data extraction was conducted by one reviewer into NICE CPHE evidence tables (effectiveness review) or an adapted version (cost-effectiveness review). Findings were narratively synthesised.</p> <p>Findings</p> <p>Twenty-six reports, presenting the findings of 22 studies, were included in the effectiveness review. Ten of these studies were RCTs, three were cluster RCTs, four were controlled before &amp; after studies, and five were uncontrolled before &amp; after studies. Thirteen of the 22 included studies were conducted in the US, five were conducted in the UK, two in Canada, one in France, and one in Australia. Seven studies (five RCTs and two cluster RCTs) were appraised as methodologically strong (rated ++), nine studies (three RCTs, one cluster RCT, four CBAs, and one BA) were appraised as methodologically weaker (rated +), and five studies (two RCTs and four BAs) were appraised as methodologically weak (rated -).</p>

Author, Date, Ref ID	Research Question	Number of included studies	Years	Setting	Intervention	Outcomes	Abstract (copy and paste)
Turner 2011 #27	To determine the effect of modifications to the home environment on the reduction of injuries due to environmental hazards.	28 completed RCTs and one unpublished study. Twenty studies were in older age groups and nine in child populations.	1979 -2009	Settings include US, Denmark, Holland, Canada, UK, Germany, France, Australia	Eligible interventions are those which focus on modifying physical hazards including the building fabric or 'fixtures and fittings' (that is, removable items within a property that are fastened or attached to the building fabric) in the domestic environment, and where modifications such as the installation of grab rails, stair gates, fire- guards, cupboard locks, hot-water tap adaptations and lighting adjustments, have been included. We have included interventions which take a multifactorial approach (that is, have modification plus education or action on other risk factors). We have included studies which include the installation of smoke alarms alongside other physical interventions but not those where provision of smoke alarms was the sole intervention. We excluded interventions which did not focus on reducing acute physical injuries (for example studies reducing chronic	Change in injury rate or risk. Change in prevalence of safety features. Change in prevalence of hazards.	<p><b>Background</b></p> <p>Injury in the home is common, accounting for approximately a third of all injuries. The majority of injuries to children under five and people aged 75 and older occur at home. Multifactorial injury prevention interventions have been shown to reduce injuries in the home. However, few studies have focused specifically on the impact of physical adaptations to the home environment and the effectiveness of such interventions needs to be ascertained.</p> <p><b>Objectives</b></p> <p>To determine the effect of modifications to the home environment on the reduction of injuries due to environmental hazards.</p> <p><b>Search methods</b></p> <p>We searched The Cochrane Library, MEDLINE, EMBASE and other specialised databases. We also scanned conference proceedings and reference lists. We contacted the first author of all included randomised controlled trials. The searches were last updated to the end of December 2009, and were not restricted by language or publication status.</p> <p><b>Selection criteria</b></p> <p>Randomised controlled trials.</p> <p><b>Data collection and analysis</b></p> <p>Two authors screened all abstracts for relevance, outcome and design. Two authors independently assessed methodological quality and extracted data from each eligible study. We performed meta-analysis to combine effect measures, using a random-effects model. We assessed heterogeneity using an I2 statistic and a Chi2 test.</p> <p><b>Main results</b></p> <p>We found 28 published studies and one unpublished study. Only two studies were sufficiently similar to allow pooling of data for statistical analyses. Studies were divided into three groups; children, older people and the general population/mixed age group. None of the studies focusing on children or older people demonstrated a reduction in injuries that were a direct result of environmental modification in the home. One study in older people demonstrated a reduction in falls and one a reduction in falls and injurious falls that may have been due to hazard reduction. One meta-analysis was performed which examined the effects on falls of multifactorial interventions consisting of home hazard assessment and modification, medication review, health and bone assessment and exercise (RR 1.09, 95% CI 0.97 to 1.23).</p> <p><b>Authors' conclusions</b></p> <p>There is insufficient evidence to determine whether interventions focused on modifying environmental home hazards reduce injuries. Further interventions to reduce hazards in the home should be evaluated by adequately designed randomised controlled trials measuring injury outcomes. Recruitment of large study samples to measure effect must be a major consideration for future trials. Researchers should also consider using factorial designs to allow the evaluation of individual components of multifactorial interventions.</p>

Author, Date, Ref ID	Research Question	Number of included studies	Years	Setting	Intervention	Outcomes	Abstract (copy and paste)
					<p>exposure to lead or nitrogen dioxide). We excluded any intervention where the focus has been to change the home environment solely for non-injury benefits (for example, improved quality of life of disabled individuals).</p>		
<p>Krieger 2010 #4480</p>	<p>The effectiveness of housing interventions to reduce exposure to indoor biologic asthma triggers to improve asthma outcomes</p>	<p>11 interventions</p>	<p>?</p>	<p>Settings include US, New Zealand</p>	<p>Three interventions were supported by sufficient evidence to warrant widespread implementation</p> <ol style="list-style-type: none"> <li>1. Multifaceted, in-home, tailored interventions for asthma</li> <li>2. Cockroach control through integrated pest management</li> <li>3. Combined elimination of moisture intrusion and leaks and removal of moldy items</li> </ol> <p>Promising Interventions That Need More Field Evaluation</p> <ol style="list-style-type: none"> <li>1. Repeated dry-steam cleaning and repeated vacuuming</li> <li>2. Improved insulation</li> <li>3. Use of air cleaning devices</li> <li>4. Moisture control through dehumidification</li> </ol> <p>Interventions in Need of Formative Research</p>	<p>Asthma morbidity</p> <p>Asthma symptoms</p> <p>Cockroach allergen</p> <p>Mould symptoms</p> <p>Respiratory symptoms</p> <p>Allergy symptoms</p>	<p>Subject matter experts systematically reviewed evidence on the effectiveness of housing interventions that affect health outcomes, primarily asthma, associated with exposure to moisture, mold, and allergens. Three of the 11 interventions reviewed had sufficient evidence for implementation: multifaceted, in-home, tailored interventions for reducing asthma morbidity; integrated pest management to reduce cockroach allergen; and combined elimination of moisture intrusion and leaks and removal of moldy items to reduce mold and respiratory symptoms. Four interventions needed more field evaluation, one needed formative research, and three either had no evidence of effectiveness or were ineffective. The three interventions with sufficient evidence all applied multiple, integrated strategies. This evidence review shows that selected interventions that improve housing conditions will reduce morbidity from asthma and respiratory allergies.</p>

Author, Date, Ref ID	Research Question	Number of included studies	Years	Setting	Intervention	Outcomes	Abstract (copy and paste)
					<p>1. One-time professional cleaning</p> <p>No Evidence/Ineffective/Harmful Interventions</p> <p>1. Air cleaners generating high levels of ozone</p> <p>2. Bedding encasement, sheet or upholstery cleaning alone</p> <p>3. Acaricides as a single intervention</p>		
Gøtzsche, 2008 #113	To assess the effects of reducing exposure to house dust mite antigens in the homes of people with mite-sensitive asthma.	54 trials	1973-2007	Various countries	<p>Chemical (acaricides).</p> <p>Physical (for example mattress covers, vacuum-cleaning, heating, ventilation, freezing, washing, air-filtration and ionisers).</p> <p>Combinations of these.</p>	<p>Subjective well-being</p> <p>Asthma symptom scores</p> <p>Medication usage</p> <p>Days of sick-leave from school or work</p> <p>Number of unscheduled visits to a physician or a hospital</p> <p>FEV1 (forced expiratory volume in one second)</p> <p>PEFR (peak expiratory flow rate)</p> <p>PC20 (provocative concentration that causes a 20% fall in FEV1)</p>	<p>Background</p> <p>The major allergen in house dust comes from mites. Chemical, physical and combined methods of reducing mite allergen levels are intended to reduce asthma symptoms in people who are sensitive to house dust mites.</p> <p>Objectives</p> <p>To assess the effects of reducing exposure to house dust mite antigens in the homes of people with mite-sensitive asthma.</p> <p>Search methods</p> <p>We searched PubMed and the Cochrane Airways Group Register (last search July 2011). No restrictions were placed on language of publication.</p> <p>Selection criteria</p> <p>We included randomised trials of mite control measures versus placebo or no treatment in people with asthma known to be sensitive to house dust mites.</p> <p>Data collection and analysis</p> <p>Two authors applied the trial inclusion criteria and evaluated the data. We contacted trial authors to clarify information.</p> <p>Main results</p> <p>We included 55 trials (3121 patients). Thirty-seven trials assessed physical methods, including 26 trials employing mattress encasings. Ten trials involved chemical methods and eight trials involved a combination of chemical and physical methods. Despite the fact that many trials were of poor quality and would be expected to exaggerate the reported effect, we did not find an effect of the interventions. For the most frequently reported outcome, peak flow in the morning (1665 patients), the standardised mean difference (SMD) was 0.01 (95% confidence interval (CI) -0.08 to 0.11). There were no statistically significant differences either in number of patients improved (risk ratio 1.01, 95% CI 0.80 to 1.27), asthma symptom scores (SMD -0.06, 95% CI -0.16 to 0.05), or in medication usage (SMD -0.05, 95% CI -0.17 to 0.07).</p> <p>Authors' conclusions</p> <p>Chemical and physical methods aimed at reducing exposure to house dust mite allergens cannot</p>

Author, Date, Ref ID	Research Question	Number of included studies	Years	Setting	Intervention	Outcomes	Abstract (copy and paste)
							be recommended. It is doubtful whether further studies, similar to the ones in our review, are worthwhile. If other types of studies are considered, they should be methodologically rigorous and use other methods than those used so far, with careful monitoring of mite exposure and relevant clinical outcomes.
Nankervis 2015 #24	Do house dust reduction and avoidance measures provide a successful way to treat eczema?	7 RCTs	1989-2012	Participant's own homes	<ul style="list-style-type: none"> <li>• Information on ways to reduce and avoid house dust mite</li> <li>• Mattress encasings</li> <li>• Duvet and pillow encasings</li> <li>• Removal of soft floor covering (e.g., carpets, rugs)</li> <li>• Vacuuming (e.g., different number of times, higher filtration)</li> <li>• Ventilation systems</li> <li>• Removing people with eczema from their environment for a defined period (e.g., removing children from a school in a lower altitude to a school in a high altitude area)</li> <li>• Ultraviolet C (UVC) light sources</li> <li>• Acaricide sprays</li> </ul>	<p><b>Primary outcomes</b></p> <ol style="list-style-type: none"> <li>1. Clinician-assessed global eczema severity using a named scale (e.g., SCORing Atopic Dermatitis (SCORAD)) or modification of such a scale.</li> <li>2. Participant- or caregiver-assessed eczema-related quality of life using a named instrument.</li> </ol> <p><b>Secondary Outcomes</b></p> <ol style="list-style-type: none"> <li>1. Participat- or caregiver-assessed global eczema severity score.</li> <li>2. Amount and frequency of topical treatment required.</li> <li>3. Sensitivity to house dust mite allergen using a marker (e.g., specific IgE).</li> <li>4. Adverse effects.</li> </ol>	<p><b>Background</b></p> <p>Eczema is an inflammatory skin disease that tends to involve skin creases, such as the folds of the elbows or knees; it is an intensely itchy skin condition, which can relapse and remit over time. As many as a third of people with eczema who have a positive test for allergy to house dust mite have reported worsening of eczema or respiratory symptoms when exposed to dust.</p> <p><b>Objectives</b></p> <p>To assess the effects of all house dust mite reduction and avoidance measures for the treatment of eczema.</p> <p><b>Search methods</b></p> <p>We searched the following databases up to 14 August 2014: the Cochrane Skin Group Specialised Register, CENTRAL in The Cochrane Library (2014, Issue 8), MEDLINE (from 1946), Embase (from 1974), LILACS (from 1982), and the GREAT database. We also searched five trials registers and checked the reference lists of included and excluded studies for further references to relevant studies. We hand-searched abstracts from international eczema and allergy meetings.</p> <p><b>Selection criteria</b></p> <p>Randomised controlled trials (RCTs) of any of the house dust mite reduction and avoidance measures for the treatment of eczema, which included participants of any age diagnosed by a clinician with eczema as defined by the World Allergy Organization. We included all non-pharmacological and pharmacological interventions that sought to reduce or avoid exposure to house dust mite and their allergenic faeces. The comparators were any active treatment, no treatment, placebo, or standard care only.</p> <p><b>Data collection and analysis</b></p> <p>Two authors independently checked the titles and abstracts identified, and there were no disagreements. We contacted authors of included studies for additional information. We assessed the risk of bias using Cochrane methodology</p> <p><b>Main results</b></p> <p>We included seven studies of 324 adults and children with eczema. Overall, the included studies had a high risk of bias. Four of the seven trials tested interventions with multiple components, and three tested a single intervention. Two of the seven trials included only children, four included children and adults, and one included only adults. Interventions to reduce or avoid exposure to house dust mite included covers for mattresses and bedding, increased or high-quality vacuuming of carpets and mattresses, and sprays that kill house dust mites.</p> <p>Four studies assessed our first primary outcome of 'Clinician-assessed eczema severity using a named scale'. Of these, one study (n = 20) did not show any significant short-term benefit from allergen impermeable polyurethane mattress encasings and acaricide spray versus allergen permeable cotton mattress encasings and placebo acaricide spray. One study (n = 60) found a modest statistically significant benefit in the Six Area, Six Sign Atopic Dermatitis (SASSAD) scale over six months (mean difference of 4.2 (95% confidence interval 1.7 to 6.7), P = 0.008) in favour of a mite impermeable bedding system combined with benzyltannate spray and high-filtration</p>

Author, Date, Ref ID	Research Question	Number of included studies	Years	Setting	Intervention	Outcomes	Abstract (copy and paste)
							<p>vacuuming versus mite permeable cotton encasings, water with a trace of alcohol spray, and a low-filtration vacuum cleaner. The third study (n = 41) did not compare the change in severity of eczema between the two treatment groups. The fourth study (n = 86) reported no evidence of a difference between the treatment groups.</p> <p>With regard to the secondary outcomes 'Participant- or caregiver-assessed global eczema severity score' and the 'Amount and frequency of topical treatment required', one study (n = 20) assessed these outcomes with similar results being reported for these outcomes in both groups. Four studies (n = 159) assessed 'Sensitivity to house dust mite allergen using a marker'; there was no clear evidence of a difference in sensitivity levels reported between treatments in any of the four trials. None of the seven included studies assessed our second primary outcome 'Participant- or caregiver-assessed eczema-related quality of life using a named instrument' or the secondary outcome of 'Adverse effects'.</p> <p>We were unable to combine any of our results because of variability in the interventions and paucity of data.</p> <p>Authors' conclusions</p> <p>We were unable to determine clear implications to inform clinical practice from the very low-quality evidence currently available. The modest treatment responses reported were in people with atopic eczema, specifically with sensitivity to one or more aeroallergens. Thus, their use in the eczema population as a whole is unknown. High-quality long-term trials of single, easy-to-administer house dust mite reduction or avoidance measures are worth pursuing.</p>
Mendell 2011 #17449	Many studies have shown consistent associations between evident indoor dampness or mold and respiratory or allergic health effects, but causal links remain unclear. Findings on measured microbiologic factors have received little review. We conducted an updated, comprehensive review on these topics.	103 studies	- 2009	?	?	<p>Asthma development</p> <p>Asthma symptoms</p> <p>Current asthma</p> <p>Ever-diagnosed asthma</p> <p>Dyspnea</p> <p>Wheeze</p> <p>Bronchitis</p> <p>Altered lung function</p> <p>Cough</p> <p>Respiratory infections</p> <p>Common cold</p> <p>Eczema</p> <p>Allergy/atopy</p>	<p>Objectives: Many studies have shown consistent associations between evident indoor dampness or mold and respiratory or allergic health effects, but causal links remain unclear. Findings on measured microbiologic factors have received little review. We conducted an updated, comprehensive review on these topics.</p> <p>Data sources: We reviewed eligible peer-reviewed epidemiologic studies or quantitative meta-analyses, up to late 2009, on dampness, mold, or other microbiologic agents and respiratory or allergic effects.</p> <p>Data extraction: We evaluated evidence for causation or association between qualitative/ subjective assessments of dampness or mold (considered together) and specific health outcomes. We separately considered evidence for associations between specific quantitative measurements of microbiologic factors and each health outcome.</p> <p>Data synthesis: Evidence from epidemiologic studies and meta-analyses showed indoor dampness or mold to be associated consistently with increased asthma development and exacerbation, current and ever diagnosis of asthma, dyspnea, wheeze, cough, respiratory infections, bronchitis, allergic rhinitis, eczema, and upper respiratory tract symptoms. Associations were found in allergic and nonallergic individuals. Evidence strongly suggested causation of asthma exacerbation in children. Suggestive evidence was available for only a few specific measured microbiologic factors and was in part equivocal, suggesting both adverse and protective associations with health.</p> <p>Conclusions: Evident dampness or mold had consistent positive associations with multiple allergic and respiratory effects. Measured microbiologic agents in dust had limited suggestive associations, including both positive and negative associations for some agents. Thus, prevention and remediation of indoor dampness and mold are likely to reduce health risks, but current evidence does not support measuring specific indoor microbiologic factors to guide health-protective actions.</p>

Author, Date, Ref ID	Research Question	Number of included studies	Years	Setting	Intervention	Outcomes	Abstract (copy and paste)
						<p>Allergic rhinitis</p> <p>Upper respiratory tract symptoms</p> <p>Other respiratory</p>	
Sandel 2010 #4479	<p>Subject matter experts systematically reviewed evidence on the effectiveness of housing interventions that affect health outcomes associated with exposure to chemical agents, such as pesticides, lead, volatile organic compounds, as well as the radon gas. Particulates were also examined, and the role of ventilation on exposures was assessed. The review included both published literature and peer-reviewed reports from the US Environmental Protection Agency. Four of the 14 interventions reviewed had sufficient evidence to demonstrate their effectiveness and are ready for implementation: radon air mitigation by using active soil depressurization systems, integrated pest management to reduce exposures to pesticides, smoke-free home policies making indoor areas smoke-free (ie, no smoking allowed</p>	11 interventions	?	US?	<p>active radon air mitigation, • passive radon air mitigation, • radon in drinking water mitigation, • integrated pest management (IPM) (as pesticide exposure reduction), • smoke-free policies, • particulate air cleaners, • particulate control by envelope sealing, • attached garage sealing, • residential ventilation, • reduction of VOCs, • air cleaners using or releasing ozone, • portable air cleaners to reduce SHS or gases, • single professional cleaning to control lead exposure, and • residential lead hazard control.</p>	<p>4 of the interventions had sufficient evidence and were shown to be effective.</p> <p>1)Radon air mitigation through active soil depressurization</p> <p>2)Integrated pest management for pesticide exposure reduction</p> <p>3)Smoke-free policies</p> <p>4)Lead hazard control</p> <p>Promising interventions that need more field evaluation</p> <p>1)Radon mitigation for drinking water by using activated charcoal and aeration</p> <p>2)Portable HEPA air cleaners for indoor particulate control</p> <p>3)Garage sealing to reduce benzene and other VOC exposures</p> <p>4)Particulate intrusion reduction and improved ventilation</p> <p>Interventions in need of formative research</p> <p>1)Radon mitigation by using passive systems</p> <p>2)Improved residential ventilation</p> <p>3)Volatile organic compound interventions other than garage sealing</p>	<p>Subject matter experts systematically reviewed evidence on the effectiveness of housing interventions that affect health outcomes associated with exposure to chemical agents, such as pesticides, lead, volatile organic compounds, as well as the radon gas. Particulates were also examined, and the role of ventilation on exposures was assessed. The review included both published literature and peer-reviewed reports from the US Environmental Protection Agency. Four of the 14 interventions reviewed had sufficient evidence to demonstrate their effectiveness and are ready for implementation: radon air mitigation by using active soil depressurization systems, integrated pest management to reduce exposures to pesticides, smoke-free home policies making indoor areas smoke-free (ie, no smoking allowed anywhere at any time), and residential lead hazard control. Four interventions needed more field evaluation, 3 needed formative research, and 3 either had no sufficient evidence of effectiveness or had evidence the interventions were ineffective. This evidence review shows that housing improvements are likely to help reduce radon-induced lung cancer, cardiovascular mortality related to secondhand smoke, and neurological effects from exposure to pesticides and lead paint. Investing in housing interventions may yield important savings from reduced disease and injury from avoidable exposures to chemical agents.</p>

Author, Date, Ref ID	Research Question	Number of included studies	Years	Setting	Intervention	Outcomes	Abstract (copy and paste)
	anywhere at any time), and residential lead hazard control. Four interventions needed more field					<p>No evidence/ineffective interventions</p> <p>1) Portable air cleaning filtration systems for SHS or gases</p> <p>2) Ionizers or other air cleaners</p> <p>3) Single professional cleaning</p>	
Sheikh 2010 #22	To assess the benefit (and harm) of measures designed to reduce house dust mite exposure in the management of house dust mite sensitive allergic rhinitis.	9 trials	1990- 2009	?	<p>These included studies in which house dust mite control measures were compared with placebo, or in which different types of control measures were compared. We considered studies evaluating physical and chemical treatments, or a combination of these approaches.</p>	<p>Primary outcomes</p> <ol style="list-style-type: none"> <li>1. Quality of life, general well-being.</li> <li>2. Days off/sick leave from school/work.</li> <li>3. Nasal symptom scores.</li> <li>4. Any adverse outcome as reported in trials.</li> </ol> <p>Secondary outcomes</p> <ol style="list-style-type: none"> <li>1. Nasal peak inspiratory flow.</li> <li>2. Nasal provocation tests.</li> <li>3. Rhinomanometry.</li> <li>4. Medication usage.</li> <li>5. Compliance with treatment.</li> <li>6. Percentage of drop-outs.</li> </ol> <p>If house dust mite avoidance measures were found to confer no benefit, this could be due to a failure to achieve an adequate reduction in house dust mite allergen levels. We therefore considered the following process outcome measure: Change in house dust mite level achieved, expressed in absolute terms and as a percentage of levels present at the outset of the trial.</p>	<p>Background</p> <p>This is an update of a Cochrane Review first published in The Cochrane Library in Issue 4, 2001 and previously updated in 2003 and 2007.</p> <p>It is estimated that in developed countries approximately 30% of the general population suffer from one or more allergic disorders, of which allergic rhinitis is particularly common. Perennial rhinitis is most often due to allergy to the house dust mite. In such patients house dust mite avoidance is logical, but there is considerable uncertainty regarding the efficacy and effectiveness of interventions designed to reduce dust mite exposure.</p> <p>Objectives</p> <p>To assess the benefit (and harm) of measures designed to reduce house dust mite exposure in the management of house dust mite sensitive allergic rhinitis.</p> <p>Search methods</p> <p>Our search included the Cochrane Ear, Nose and Throat Disorders Group Trials Register, the Cochrane Central Register of Controlled Trials Register (CENTRAL) (The Cochrane Library Issue 4, 2009), MEDLINE and EMBASE. The date of the last search was 31 December 2009.</p> <p>Selection criteria</p> <p>Randomised controlled trials, with or without blinding, in which house dust mite control measures have been evaluated in comparison with placebo or other dust mite avoidance measures, in patients with clinician-diagnosed allergic rhinitis and confirmed allergy to dust mite.</p> <p>Data collection and analysis</p> <p>Two authors independently screened titles and abstracts, graded methodological quality using the Cochrane approach and extracted data. Meta-analysis was neither possible nor appropriate due to heterogeneity of the patient groups studied.</p> <p>House dust mite avoidance measures for perennial allergic rhinitis (Review) 1 Copyright © 2010 The Cochrane Collaboration. Published by John Wiley &amp; Sons, Ltd. Main results</p> <p>Nine trials involving 501 participants satisfied the inclusion criteria. Only two studies investigating the effectiveness of mite impermeable bedding covers were of good quality; the remaining seven studies were small and of poor quality. Two trials investigated the efficacy of acaricides, another two trials investigated the role of high-efficiency particulate air (HEPA) filters. One trial, using a factorial design, investigated the efficacy of both acaricide and house dust mite impermeable bedding covers in isolation and combination; the remaining four trials investigated the efficacy of bedroom environmental control programmes involving use of house dust mite impermeable bedding covers. Seven of the nine trials reported that, when compared with control, the interventions studied resulted in significant reductions in house dust mite load. Of the interventions studied to date, acaricides appear to be the most promising type of intervention, although the</p>

Author, Date, Ref ID	Research Question	Number of included studies	Years	Setting	Intervention	Outcomes	Abstract (copy and paste)
							<p>findings from these studies need to be interpreted with care because of their methodological limitations. House dust mite impermeable bedding as an isolated intervention is unlikely to offer clinical benefit. No serious adverse effects were reported from any of the interventions.</p> <p>Authors' conclusions</p> <p>Trials to date have on the whole been small and of poor methodological quality, making it difficult to offer any definitive recommendations on the role, if any, of house dust mite avoidance measures in the management of house dust mite sensitive perennial allergic rhinitis. The results of these studies suggest that use of acaricides and extensive bedroom-based environmental control programmes may be of some benefit in reducing rhinitis symptoms and, if considered appropriate, these should be the interventions of choice. Isolated use of house dust mite impermeable bedding is unlikely to prove effective.</p>
Wynn 2015 #303	What is the Evidence for non-legislative interventions to reduce childhood poisonings in the home with particular reference to interventions that could be implemented by Children's Centres in England or community health or social care services in other high income countries.	Thirteen systematic reviews, two meta-analyses and 47 primary studies	1968-2011	Various	<p>Education</p> <p>Provision of cupboard/door locks</p> <p>Poison control centre stickers</p>	<p>Safe medicine storage</p> <p>Safe storage of other products</p>	<p>Unintentional poisoning is a significant child public health problem. This systematic overview of reviews, supplemented with a systematic review of recently published primary studies synthesizes evidence on non-legislative interventions to reduce childhood poisonings in the home with particular reference to interventions that could be implemented by Children's Centres in England or community health or social care services in other high income countries. Thirteen systematic reviews, two meta-analyses and 47 primary studies were identified. The interventions most commonly comprised education, provision of cupboard/drawer locks, and poison control centre (PCC) number stickers. Metaanalyses and primary studies provided evidence that interventions improved poison prevention practices. Twenty eight per cent of studies reporting safe medicine storage (OR from meta-analysis 1.57, 95% CI 1.22_2.02), 23% reporting safe storage of other products (OR from meta-analysis 1.63, 95% CI 1.22_2.17) and 46% reporting availability of PCC numbers (OR from meta-analysis 3.67, 95% CI 1.84_7.33) demonstrated significant effects favouring the intervention group. There was a lack of evidence that interventions reduced poisoning rates. Parents should be provided with poison prevention education, cupboard/drawer locks and emergency contact numbers to use in the event of a poisoning. Further research is required to determine whether improving poison prevention practices reduces poisoning rates.</p>

Author, Date, Ref ID	Research Question	Number of included studies	Years	Setting	Intervention	Outcomes	Abstract (copy and paste)
Liddell 2010 #17450	The health impacts of tackling fuel poverty	5 studies	2000-2010	England, Wales, Scotland, US, NZ	Interventions to tackle fuel poverty	Mortality  Self-reported physical health  Self-reported mental health  Hospital attendance  Weight for age  Caregiver and child health reports	<p>The health impacts of tackling fuel poverty are reviewed, drawing primarily on large-scale studies completed in the last 10 years. Although physical health effects on adults appear to be modest, caregivers and children perceive significant impacts on children's respiratory health. There also appear to be significant effects on the physical health of infants, particularly on weight gain and susceptibility to illness. Mental health effects on adults emerge as significant in most studies, as do mental health impacts on adolescents. Mental health effects on children have, as yet, never been systematically assessed. Whilst several studies are methodologically rigorous, with some also based on very large samples, methodological problems remain. In future evaluations of health impacts, clinical outcomes could be more comprehensively augmented with measures that extend beyond physical health. These include measures reflecting quality of life, changes in patterns of social engagement and daily routine, and their concomitant impacts on mental wellbeing. Such measures may provide more rounded insights into the potential health impacts of tackling fuel poverty and—equally as important for policy and practice—the processes by which these impacts become manifest.</p>

## Appendix Four - Quality Assessment (alphabetical)

The tables containing the data on the assessment of included studies are presented in alphabetical order.

Author/Year/ Paper ID		Addis/2009/4972
Self-reported methodological limitations (cut and paste from paper)		We sought to use additional measures to help protect against bias and the high level of agreement between researchers may appear to indicate that our conclusions were sound. However, high rates of agreement might simply indicate that we brought similar biases to understanding the relevance of the material and drawing conclusions from it. We therefore engaged the wider research team and policy leads in a process of testing the findings against their expectations and experience
Was quality assessment of primary studies undertaken for the review? Was this sufficient? If not, why not?		The quality of primary research papers was formally assessed using standard quality assessment criteria for evaluating primary research papers from a variety of fields (Kmet et al. 2004). This evaluation method allows the systematic evaluation of both quantitative and qualitative primary research and across a broad range of study designs. Specific aspects of the paper, relating to methodology (e.g. 'Method of subject selection') and writing (e.g. 'Results reported in sufficient detail?') are scored with either a yes (2 points), partial (1 point) or no (0 points). The quantitative papers were assessed using 14 items, with nine items being potentially not applicable (n/a) due to the use of particular study designs. A summary percentage score was calculated by dividing total score summed across all applicable items by the highest possible score total [28 ) (number of n/a · 2)]. The scores for qualitative papers was undertaken in a similar way, using 10 items with none being n/a (Kmet et al. 2004).  Tool was not used to include or exclude any studies.
Quality Assessment Instrument CEBM Systematic Review Checklist. Available from <a href="http://www.cebm.net/wp-content/uploads/2014/06/diy-">http://www.cebm.net/wp-content/uploads/2014/06/diy-</a>	What question (PICO) did the systematic review address?	Yes/No/Unclear Comment
	Is it unlikely that important, relevant studies were missed?	Yes/No/Unclear Comment
	Were the criteria used to select articles for inclusion appropriate?	Yes/No/Unclear Comment
	Were the included studies sufficiently valid for the type of question asked?	Yes/No/Unclear Comment BROAD RESEARCH QUESTION

<a href="#">systematic-review-appraisal-worksheet.pdf</a>	Were the results similar from study to study?	Yes/No/Unclear Comment BROAD RESEARCH QUESTION SO NO!
	Are the results presented appropriately?	Yes/No/Unclear Comment THE SUMMARIES COULD BE MORE CLEARLY PRESENTED
Are wellbeing measures/indicators/proxies clear?		N/A
Are housing measures/indicators/proxies clear?		Yes
Our views and overall comments on the quality of the paper and its applicability to our review of reviews		Quality is acceptable when dealing with the variety of papers that they were dealing with. Thematic presentation of literature could be slightly clearer.
Author/Year/ Paper ID		Aidala/2016/333
Self-reported methodological limitations (cut and paste from paper)		<p>...some methodological challenges remain. There continues to be a lack of consistency with regard to specific indicators of housing status that limits comparisons across studies. The great majority of included studies (78%) used a dichotomized indicator of housing status—most often “homeless” versus “not homeless”—which limits examination of possible differences in outcomes associated with different material, social, emotional, and moral dimensions of housing status.</p> <p>There are also some limitations. We included only studies based in high-income countries. Gray literature searches were limited; thus we may have missed some potentially relevant studies grounded on empirical research reports but not formally published. Because of the number of eligible articles, we limited discussion of specific studies to a few examples within each outcome domain.</p>
Was quality assessment of primary studies undertaken for the review? Was this sufficient? If not, why not?		Yes, Cochrane Risk of Bias Tool for randomized controlled trials and a modified version of the Newcastle Ottawa Quality Appraisal Tool for non-intervention studies. In our quality appraisal, we focused on issues of quality for observational studies: appropriate methods for determining exposure and measuring outcomes and methods to control confounding.
Quality Assessment Instrument CEBM Systematic Review Checklist. Available from <a href="http://www.cebm.net/wp-content/uploads/2014/06/di-y-systematic-review-appraisal-worksheet.pdf">http://www.cebm.net/wp-content/uploads/2014/06/di-y-systematic-review-appraisal-worksheet.pdf</a>	What question (PICO) did the systematic review address?	Yes/No/Unclear Comment
	Is it unlikely that important, relevant studies were missed?	Yes/No/Unclear Comment Limited grey literature searching
	Were the criteria used to select articles for inclusion appropriate?	Yes/No/Unclear Comment

	Were the included studies sufficiently valid for the type of question asked?	Yes/No/Unclear Comment
	Were the results similar from study to study?	Yes/No/Unclear Comment
	Are the results presented appropriately?	Yes/No/Unclear Comment
Are wellbeing measures/indicators/proxies clear?		Yes, mainly health service related outcomes, but clearly described and outcomes given
Are housing measures/indicators/proxies clear?		Yes, accurate description of varying housing situations
Our views and overall comments on the quality of the paper and its applicability to our review of reviews		Very applicable. Large, well described review. Applicable due to the population and the varying housing situations that it describes.
Author/Year/ Paper ID		Atyeo 2013 11592
Self-reported methodological limitations (cut and paste from paper)		None.
Was quality assessment of primary studies undertaken for the review? Was this sufficient? If not, why not?		Review focused on the type of study and its internal validity.
Quality Assessment Instrument CEBM Systematic Review Checklist. Available from <a href="http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf">http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf</a>	What question (PICO) did the systematic review address?	Yes/No/Unclear Comment
	Is it unlikely that important, relevant studies were missed?	Yes/No/Unclear Comment Possibly as they did restrict to specific disciplines of evidence
	Were the criteria used to select articles for inclusion appropriate?	Yes/No/Unclear Comment
	Were the included studies sufficiently valid for the type of question asked?	Yes/No/Unclear Comment
	Were the results similar from study to study?	Yes/No/Unclear Comment
	Are the results presented appropriately?	Yes/No/Unclear Comment Much of the detail about the studies is included in the discussion of their limitations, for example, the size and composition of the population of the studies
Are wellbeing measures/indicators/proxies clear?		Yes
Are housing measures/indicators/proxies clear?		Yes
Author/Year/ Paper ID		Bassuk/2014/1312

Self-reported methodological limitations (cut and paste from paper)		
Was quality assessment of primary studies undertaken for the review? Was this sufficient? If not, why not?		Study quality was appraised using the Effective Public Health Practice Project tool. "The tool is designed to assess six domains: selection bias, study design, confounders, blinding, data collection methods, and withdrawals and dropouts. Based on ratings for each domain, a study was categorized as having strong, moderate, or weak methodology"
Quality Assessment Instrument CEBM Systematic Review Checklist. Available from <a href="http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf">http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf</a>	What question (PICO) did the systematic review address?	Yes/No/Unclear Comment
	Is it unlikely that important, relevant studies were missed?	Yes/No/Unclear Comment
	Were the criteria used to select articles for inclusion appropriate?	Yes/No/Unclear Comment
	Were the included studies sufficiently valid for the type of question asked?	Yes/No/Unclear Comment
	Were the results similar from study to study?	Yes/No/Unclear Comment
	Are the results presented appropriately?	Yes/No/Unclear Comment
Are wellbeing measures/indicators/proxies clear?		Yes
Are housing measures/indicators/proxies clear?		Yes
Our views and overall comments on the quality of the paper and its applicability to our review of reviews		Very clear methodologically. May have limited number of studies included as did not include cross sectional studies. Reported many of the interventions as weak in terms of quality due to study design and reporting. Quite biomedical in its critique.
Author/Year/ Paper ID		Benston, 2015, 313
Self-reported methodological limitations (cut and paste from paper)		Cannot cut and paste as the reference is paper only. The paper makes substantial critiques of the primary studies included in the review – focusing on sampling and selection bias, attrition, response bias, randomisation and control group design. These "limit internal validity, the ability to generalize findings and efforts to replicate research conditions. With the possible exception of the Pathways studies, the reviewed studies are unique to their environments"
Was quality assessment of primary studies undertaken for the review? Was this sufficient? If not, why not?		No formal tool used. Review focused on the internal validity of the studies and their generalisability to the wider population.
Quality Assessment	What question (PICO) did the systematic review address?	Yes/No/Unclear Comment

Instrument CEBM Systematic Review Checklist. Available from <a href="http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf">http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf</a>	Is it unlikely that important, relevant studies were missed?	Yes/No/Unclear Comment
	Were the criteria used to select articles for inclusion appropriate?	Yes/No/Unclear Comment
	Were the included studies sufficiently valid for the type of question asked?	Yes/No/Unclear Comment
	Were the results similar from study to study?	Yes/No/Unclear Comment But the reasons for this are explained very clearly
	Are the results presented appropriately?	Yes/No/Unclear Comment Much of the detail about the studies is included in the discussion of their limitations, for example, the size and composition of the population of the studies
Are wellbeing measures/indicators/proxies clear?		Yes
Are housing measures/indicators/proxies clear?		Yes
Our views and overall comments on the quality of the paper and its applicability to our review of reviews		Overall good quality but spends a lot of time talking about the limitations of the primary research and how this limits the generalisability of the review findings – perhaps in part due to the equivocal nature of the evidence – perhaps the limitations would not have been focused on so much had the evidence been more unequivocal?
Author/Year/ Paper ID		Beswick et al 2008 5921
Self-reported methodological limitations (cut and paste from paper)		Trials specifically targeting falls prevention included interventions that were more strongly focused on home safety and physical health than other trials included in this review. However, all interventions included in the review addressed diverse issues of medical and social care. Exclusion of trials specifically targeting fall prevention made little difference to overall outcomes, including risk of falling (RR 0· 88, 95% CI 0· 81–0· 95). The outcome of living at home might be an over simplistic marker for independent living. In Byles and colleagues' study, <sup>28</sup> increased admissions to nursing homes in the intervention group were attributed to the assessment process and advice given. The intervention might have led to improved understanding of the limitations of home-based care and increased awareness of alternative care available in nursing homes. Conversely, if limitation of health-care use and costs are the main objectives, unfavourable care patterns for both the individual and carers might arise. Interpretation of results related to physical function is restricted by selective reporting in people readily available for interview follow-up and by the large losses to follow-up in trials. Previous reviews have reported the number of people with functional deterioration, but this outcome was only available for a

		<p>small number of trials. A further limitation in reporting changes in physical function is the large number of different outcome measures reported. Other outcomes, including empowerment, autonomy, independent decision making, improved self esteem, and self confidence might accurately describe the effect of an intervention to the individual.<sup>116</sup> Close and colleagues<sup>100</sup> measured ability to go out alone as an outcome, perhaps a better marker of independence; and Kerse and colleagues<sup>38</sup> obtained information on how often people did something they really enjoyed and the frequency of interactions with family and friends. Rockwood and colleagues<sup>69</sup> used goal attainment scaling as part of the intervention and follow-up.<sup>117</sup> This method aimed to assess specific outcomes based on personal goals set during intervention. Various other outcome measures related to health and psychosocial status and satisfaction with care and health-service use were reported, but their diversity and application in only a few trials restricted their value in a systematic overview. A strength of our review is the inclusion of the large MRC trial of assessment and management of elderly people in the community. Recruitment to the trial commenced in 1995 and in the context of our review is a late trial. However, the authors note that annual assessments, as promoted in the UK, were poorly implemented at this time. Although the cluster design was associated with reduced study power and the study lacked an untreated control group, the MRC trial served to support the overall meta-analysis. Although not significant at the prespecified 1% level, the reported RR for institutional admissions was 0· 83 (99% CI 0· 66–1· 06), which was reasonably similar to that in our meta-analysis (0· 87, 0· 82–0· 91). The outcome of living at home was not available, but an estimate based on the sum of deaths and institutional admissions again suggested similar benefit in the large trial and the meta-analysis. Neither approach showed benefit with regard to death.</p>
Was quality assessment of primary studies undertaken for the review? Was this sufficient? If not, why not?		<p>Yes Yes</p>
Quality Assessment Instrument CEBM Systematic Review Checklist. Available from <a href="http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf">http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf</a>	What question (PICO) did the systematic review address?	Yes/No/Unclear Comment
	Is it unlikely that important, relevant studies were missed?	Yes/No/Unclear Comment Perhaps grey lit
	Were the criteria used to select articles for inclusion appropriate?	Yes/No/Unclear Comment
	Were the included studies sufficiently valid for the type of question asked?	Yes/No/Unclear Comment
	Were the results similar from study	Yes/No/Unclear

	to study?	Comment
	Are the results presented appropriately?	Yes/No/Unclear Comment
Are wellbeing measures/indicators/proxies clear?		Independent living, nursing home and hospital admissions, falls, physical function
Are housing measures/indicators/proxies clear?		? discusses multifactorial community interventions
Our views and overall comments on the quality of the paper and its applicability to our review of reviews		Good quality paper, studies up to 2005 so ? currency
Author/Year/ Paper ID		Browne 2010 13094
Self-reported methodological limitations (cut and paste from paper)		Not given
Was quality assessment of primary studies undertaken for the review? Was this sufficient? If not, why not?		No
Quality Assessment Instrument CEBM Systematic Review Checklist. Available from <a href="http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf">http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf</a>	What question (PICO) did the systematic review address?	Yes/No/Unclear Comment
	Is it unlikely that important, relevant studies were missed?	Yes/No/Unclear Comment
	Were the criteria used to select articles for inclusion appropriate?	Yes/No/Unclear Comment
	Were the included studies sufficiently valid for the type of question asked?	Yes/No/Unclear Comment
	Were the results similar from study to study?	Yes/No/Unclear Comment
	Are the results presented appropriately?	Yes/No/Unclear Comment
Are wellbeing measures/indicators/proxies clear?		No
Are housing measures/indicators/proxies clear?		No
Our views and overall comments on the quality of the paper and its applicability to our review of reviews		
Author/Year/ Paper ID		Burgoyne 315 2014

<p>Self-reported methodological limitations (cut and paste from paper)</p>	<p>Conducting a qualitative systematic review proved more difficult than envisaged with very limited methodological guidance available in some areas – quality assessment and data selection in particular. The review was undertaken as an MSc dissertation, and having a single reviewer imposes some limitations (Jones, 2004). Using systematic review methods in searching for qualitative studies was laborious but delivered clear benefits over traditional literature reviews in terms of comprehensiveness and reliability. There are concerns about synthesising methodologically diverse data based upon diverse research traditions (Atkins et al., 2008) but this can also be seen as a strength (Finfgeld-Connett, 2008). Quality assessment of qualitative studies is another area of contention, and it is difficult to assess the effect of individual papers judged to be seriously flawed included in a qualitative synthesis. Of the seven studies used in the final synthesis only three demonstrated robust methodology but this may be a result of compromises due to publication requirements. Thematic analysis required a creative element that would be difficult to replicate, and reproducibility is a further methodological issue for qualitative reviews. The model drawn from the synthesis represents a hypothesis rather than the definitive summation of research produced by quantitative reviews. However, I believe that this model provides an additional layer of meaning to the original data by illustrating the high level of interdependency between the themes identified. The diversity of supported housing models makes comparative evaluation extremely difficult. Data relating to specific types or models of accommodation was very thin and it proved more useful to identify general themes relating to housing.</p>	
<p>Was quality assessment of primary studies undertaken for the review? Was this sufficient? If not, why not?</p>	<p>Edited Critical Appraisal Skills Programme (CASP) checklist</p>	
<p>Quality Assessment Instrument CEBM Systematic Review Checklist. Available from <a href="http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf">http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf</a></p>	<p>What question (PICO) did the systematic review address?</p>	<p>Yes/No/Unclear Comment</p>
	<p>Is it unlikely that important, relevant studies were missed?</p>	<p>Yes/No/Unclear Comment Very comprehensive search strategy taking into account the challenges of searching for qualitative research</p>
	<p>Were the criteria used to select articles for inclusion appropriate?</p>	<p>Yes/No/Unclear Comment</p>
	<p>Were the included studies sufficiently valid for the type of question asked?</p>	<p>Yes/No/Unclear Comment</p>
	<p>Were the results similar from study to study?</p>	<p>Yes/No/Unclear Comment</p>
	<p>Are the results presented appropriately?</p>	<p>Yes/No/Unclear Comment</p>
<p>Are wellbeing measures/indicators/proxies clear?</p>	<p>N/A</p>	

Are housing measures/indicators/proxies clear?		N/A
Our views and overall comments on the quality of the paper and its applicability to our review of reviews		Applicable in terms of what needs to be considered alongside the measurable outcomes that other reviews have focused on. Service user testimony is vital when designing services or interventions.
Author/Year/ Paper ID		Chase, et al (2012) #15322
Self-reported methodological limitations (cut and paste from paper)		<p>The systematic review presented here has several strengths. The methodology included a large time frame (since 1990) and incorporated several bibliographic databases, thus ensuring that relevant literature was captured. In addition, a wide range of interventions was studied in the articles included in the review. Of the 33 articles included in the review, 31, or 94%, were Level I RCTs, and 100% were Level II or Level I. Although studies at all levels may have limitations, those at Level I are less vulnerable to bias and more generalizable. In addition, the outcomes are more likely to be attributed to the intervention being studied. Some of the articles included in this systematic review, however, had limitations. Several studies were not blinded, had high dropout rates, and had small sample sizes. Many of the studies used self-report, and the methods for recording falls and injuries varied among the studies. Self reported function may have involved participants responding to general ADL and IADL status questions with a broad sweeping report rather than considering each task separately, which would provide a more detailed account of their abilities and challenges. Interventions included in studies may not have been clearly described, and the definition of home modifications and equipment may have varied among studies. The studies were conducted in several countries, and whether differences in health care systems had an impact on the design and implementation of the interventions is unknown. In addition, determining the contribution of individual components of multifactorial interventions is difficult, and it was also not always clear whether home modifications were completed on the basis of the recommendations provided or whether modifications were made appropriately.</p>
Was quality assessment of primary studies undertaken for the review? Was this sufficient? If not, why not?		Yes Yes
Quality Assessment Instrument CEBM Systematic Review Checklist. Available from <a href="http://www.cebm.net/wp-content/uploads/2014/06/diy-">http://www.cebm.net/wp-content/uploads/2014/06/diy-</a>	What question (PICO) did the systematic review address?	Yes/No/Unclear Comment
	Is it unlikely that important, relevant studies were missed?	Yes/No/Unclear Comment grey literature
	Were the criteria used to select articles for inclusion appropriate?	Yes/No/Unclear Comment
	Were the included studies sufficiently valid for the type of question asked?	Yes/No/Unclear Comment

<a href="#">systematic-review-appraisal-worksheet.pdf</a>	Were the results similar from study to study?	Yes/No/Unclear Comment
	Are the results presented appropriately?	Yes/No/Unclear Comment
Are wellbeing measures/indicators/proxies clear?		Yes, ADL, IADL
Are housing measures/indicators/proxies clear?		? hard to unpick components of multifactorial interventions
Our views and overall comments on the quality of the paper and its applicability to our review of reviews		Good quality SR
Author/Year/ Paper ID		Clark et al, 2007, 18
Self-reported methodological limitations (cut and paste from paper)		<p><b>Limitations of the review</b></p> <p>This review was extensive in sourcing evidence, which led to a vast number of citations being identified. Time constraints meant the review was conducted over a four-month period, and only one reviewer scanned all of the identified citations for eligibility. A weakness of the review was that this stage was not undertaken independently, by two reviewers. However, a 10% sample of the searches was screened at the same time, independently by a second reviewer, and this second screening process was only terminated when the checks per year reached 100% agreement. We also sent the panel of experts a preliminary final list of references, to check for omissions, and no further studies were identified, suggesting that the search strategy had been comprehensive. The time limit on the project also meant that we were unable to review the grey literature, and were also limited to searching only the period January 1990–September 2005: studies published earlier than 1990 are not included in this review.</p>
Was quality assessment of primary studies undertaken for the review? Was this sufficient? If not, why not?		Yes
Quality Assessment Instrument CEBM Systematic Review Checklist. Available from <a href="http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf">http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf</a>	What question (PICO) did the systematic review address?	Yes/No/Unclear Comment question clear although broad
	Is it unlikely that important, relevant studies were missed?	Yes/No/Unclear Comment Grey literature was not searched for
	Were the criteria used to select articles for inclusion appropriate?	Yes/No/Unclear Comment
	Were the included studies sufficiently valid for the type of question asked?	Yes/No/Unclear Comment

	Were the results similar from study to study?	Yes/No/Unclear Comment But the reasons for this are explained very clearly
	Are the results presented appropriately?	Yes/No/Unclear Comment Slight inconsistencies between table and verbal narrative.
Are wellbeing measures/indicators/proxies clear?		
Are housing measures/indicators/proxies clear?		Yes
Our views and overall comments on the quality of the paper and its applicability to our review of reviews		Good quality paper applicable
Author/Year/ Paper ID		Fitzpatrick Lewis/2011/3773
Self-reported methodological limitations (cut and paste from paper)		As a rapid review, this literature synthesis has a number of limitations. Some of these limitations are a product of the short timelines determined by the contracting agency to conduct the review. For example, grey literature searching was limited in its scope, conference proceedings and trial registers were excluded, and a limited number of relevant websites were selected for searching.  In instances where data were unclear and/or incomplete, time constraints prohibited contacting authors to clarify data and citation tracking for subsequently published studies was not feasible. As a result of these limitations, it is possible that some potentially relevant studies were missed in the search. A further limitation of this review is that it synthesizes only methodologically moderate articles, as no methodologically strong studies were found and weak studies were not discussed in detail.
Was quality assessment of primary studies undertaken for the review? Was this sufficient? If not, why not?		"The Effective Public Health Practice Project (EPHPP) has developed and tested a tool for assessing the methodological quality of primary studies in public health.... This tool consists of six criteria: selection bias, study design, confounders, blinding, data collection methods, and withdrawals and dropouts. Each study was appraised according to the six criteria and rated as "strong", "moderate" or "weak" according to characteristics of each criterion reported in the study"
Quality Assessment Instrument CEBM Systematic Review Checklist. Available from <a href="http://www.cebm.net/wp-content/uploads/20">http://www.cebm.net/wp-content/uploads/20</a>	What question (PICO) did the systematic review address?	Yes/No/Unclear Comment
	Is it unlikely that important, relevant studies were missed?	Yes/No/Unclear Comment
	Were the criteria used to select articles for inclusion appropriate?	Yes/No/Unclear Comment
	Were the included studies sufficiently valid for the type of	Yes/No/Unclear Comment

<a href="#">14/06/diy-systematic-review-appraisal-worksheet.pdf</a>	question asked?	
	Were the results similar from study to study?	Yes/No/Unclear Comment
	Are the results presented appropriately?	Yes/No/Unclear Comment
Are wellbeing measures/indicators/proxies clear?		Yes
Are housing measures/indicators/proxies clear?		Yes
Our views and overall comments on the quality of the paper and its applicability to our review of reviews		Only studies rated as moderate quality (or above, but none were identified) are included.
Author/Year/ Paper ID		Gillespie et al (2012) 17452

<p>Self-reported methodological limitations (cut and paste from paper)</p>	<p>The assessment of risk of bias relied heavily on the reporting of trials and was unclear in many cases. Potential bias varied within comparison groups and it is difficult to judge whether any bias would result in an over or under-estimation of treatment effect. Participant characteristics varied greatly due to the recruitment methods used, and the inclusion and exclusion criteria applied. Participants in some trials were healthy volunteers; in others they were more representative of older people as a whole having been randomly sampled from databases such as electoral rolls. As the majority of trials specifically excluded older people who were cognitively impaired, the results of this review may not be applicable to this important group of people at risk. We have excluded trials recruiting people with Parkinson's disease and post stroke from this review update as we felt the results of interventions for those neurological conditions were not necessarily applicable to older people as a whole. This review differs from many in <i>The Cochrane Library</i> by including a large number of interventions. This precludes in-depth subgroup analyses exploring the effect of different components within interventions such as those undertaken in <a href="#">Sherrington 2011</a> for exercise, or other factors that may affect results such as recruitment rates or adherence (<a href="#">Nyman 2012</a>). This is an argument for splitting this review into a number of separate reviews focusing on specific interventions. The included trials were conducted in over 21 countries, using a variety of healthcare models. The effectiveness of some interventions may be sensitive to differences between healthcare systems, structures, and networks at local and national level. This review containing 159 trials (79,193 participants) provides robust evidence regarding effective interventions for reducing falls. However, not all studies met the contemporary standards of the CONSORT statement (<a href="#">Boutron 2008</a>), including the extensions for pragmatic randomised trials (<a href="#">Zwarenstein 2008</a>) and clusterrandomised trials (<a href="#">Campbell 2004</a>). Where factorial designs were employed, data for each treatment cell were not always reported (<a href="#">McAlister 2003</a>). The fact that the outcome of interest, falling, was not always defined, is a continuing concern. The included studies also illustrated the wider problems of variation in the methods of ascertaining, recording, analysing, and reporting falls described in <a href="#">Hauer 2006</a>. Studies should use consensus recommendations for conducting fall prevention trials which include the daily recording of falls, with monthly, or more frequent, follow-up by the researchers blind to group allocation</p>
<p>Was quality assessment of primary studies undertaken for the review? Was this sufficient? If not, why not?</p>	<p>Yes Yes</p>

Quality Assessment Instrument CEBM Systematic Review Checklist. Available from <a href="http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf">http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf</a>	What question (PICO) did the systematic review address?	Yes/No/Unclear Comment
	Is it unlikely that important, relevant studies were missed?	Yes/No/Unclear Comment
	Were the criteria used to select articles for inclusion appropriate?	Yes/No/Unclear Comment
	Were the included studies sufficiently valid for the type of question asked?	Yes/No/Unclear Comment
	Were the results similar from study to study?	Yes/No/Unclear Comment
	Are the results presented appropriately?	Yes/No/Unclear Comment
Are wellbeing measures/indicators/proxies clear?	? Can infer that if older people have less falls at home can live in own home longer & assume that better QOL than nursing home	
Are housing measures/indicators/proxies clear?	Yes	
Our views and overall comments on the quality of the paper and its applicability to our review of reviews	High quality Cochrane SR	
Author/Year/ Paper ID	Haak et al (2011) #10332	

<p>Self-reported methodological limitations (cut and paste from paper)</p>	<p>The strength of a meta-synthesis is the telling of a new story through a rigorous description and translation process with a result that have stronger impact than each of the included studies alone would have (Zimmer 2006). A limitation of this study might be the decision to base the metasynthesis on a specific sample of just four studies, involving the same sample of 40 very old people in one country (Sweden). Though, to the best of our knowledge, this is the first meta-synthesis study based on four interrelated qualitative papers on home and health; thus, this study contributes to methodological developments within this field. If more studies had been included, additional insights into the phenomenon on ageing at home might have emerged. However, one problem when conducting metasynthesis is the variation of methodologies used in different studies. Such variations lead to the loss of detailed descriptions that validate the quality of the original studies and therefore put the quality of the meta-synthesis findings at risk. In this respect, the present study has the advantage that grounded theory as described by Charmaz (2006) was applied in all four studies included. Grounded theory focuses on human social processes and on inductive theory generation (Glaser and Strauss 1967). Thus, translations between findings is facilitated and considered as a methodological advantage in our study. Moreover, the author constellation of the current paper is the same as of the four studies included in the sample. According to Paterson (2001), when authors conduct meta-synthesis on studies other than their own, there is a risk of losing valuable insights emerging from the analytic steps of meta-synthesis.</p>	
<p>Was quality assessment of primary studies undertaken for the review? Was this sufficient? If not, why not?</p>	<p>Not applicable</p>	
<p>Quality Assessment Instrument CEBM Systematic Review Checklist. Available from <a href="http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf">http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf</a></p>	<p>What question (PICO) did the systematic review address?</p>	<p>Yes/No/Unclear Comment Appropriate question for meta-synthesis</p>
	<p>Is it unlikely that important, relevant studies were missed?</p>	<p>Yes/No/Unclear Comment The study chose to focus on 4 complementary papers</p>
	<p>Were the criteria used to select articles for inclusion appropriate?</p>	<p>Yes/No/Unclear Comment</p>
	<p>Were the included studies sufficiently valid for the type of question asked?</p>	<p>Yes/No/Unclear Comment</p>
	<p>Were the results similar from study to study?</p>	<p>Yes/No/Unclear Comment</p>
	<p>Are the results presented appropriately?</p>	<p>Yes/No/Unclear Comment</p>
<p>Are wellbeing measures/indicators/proxies clear?</p>	<p>Yes</p>	

Are housing measures/indicators/proxies clear?		Yes
Our views and overall comments on the quality of the paper and its applicability to our review of reviews		Good quality meta-synthesis that increase knowledge and understanding of home and health for old people living at home.
Author/Year/ Paper ID		Johnson 2012 #15306
Self-reported methodological limitations (cut and paste from paper)		None reported
Was quality assessment of primary studies undertaken for the review? Was this sufficient? If not, why not?		No.
Quality Assessment Instrument CEBM Systematic Review Checklist. Available from <a href="http://www.cbm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf">http://www.cbm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf</a>	What question (PICO) did the systematic review address?	Yes/No/Unclear: YES Comment:
	Is it unlikely that important, relevant studies were missed?	Yes/No/Unclear: YES, unlikely Comment: Search was relatively extensive
	Were the criteria used to select articles for inclusion appropriate?	Yes/No/Unclear: YES Comment: Criteria were clear, but quality assessment (QA) wasn't reported.
	Were the included studies sufficiently valid for the type of question asked?	Yes/No/Unclear: UNCLEAR Comment: Study design and QA not reported.
	Were the results similar from study to study?	Yes/No/Unclear: YES Comment: Overall
	Are the results presented appropriately?	Yes/No/Unclear: Unclear Comment: Tabulated results were clear but narrative text was a bit discursive
Are wellbeing measures/indicators/proxies clear?		Outcomes / measures are not identified as wellbeing measures. Educational outcomes is the proxy.
Are housing measures/indicators/proxies clear?		Unclear
Our views and overall comments on the quality of the paper and its applicability to our review of reviews		The study wasn't reported as a structured systematic review and the text containing results was discursive. The general topic of neighbourhood effects on educational outcomes and the discussion relating to the bidirectional effects between neighbourhoods and schools (and institutions more generally) was highly relevant to our review of reviews.
Author/Year/ Paper ID		Kaushal and Rhodes (2014) 1357

Self-reported methodological limitations (cut and paste from paper)		A noticeable limitation found in these studies involved methodological issues which could compromise the quality of findings, particularly, study design and measurement validity. Out of the 29 observational studies, six were prospective designs, and only 11/20 experiments were true RCTs. Some studies did not use validated scales and some that did, failed to use the potential of the subscales in the measure (i.e., types of equipment, location, etc.). Finally, the variability of populations could also be a limitation such as clinical populations, ethnic backgrounds and SES. The present review also consists of some limitations which are also important to address. First, only English peer-reviewed published articles were considered for this study. Therefore, potential studies which could have been relevant (eg. Thesis or Non-English) were not included. Second, the search criterion was limited to the terms and databases described in the method section.
Was quality assessment of primary studies undertaken for the review? Was this sufficient? If not, why not?		Yes Experimental research Cochrane Risk of Bias Tool Observational studies modified version of the Downs and Black's 22-item assessment tool.
Quality Assessment Instrument CEBM Systematic Review Checklist. Available from <a href="http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf">http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf</a>	What question (PICO) did the systematic review address?	Yes/No/Unclear Comment To examine how the home physical environment relates to adult and child PA or SD behaviour
	Is it unlikely that important, relevant studies were missed?	Yes/No/Unclear Comment Limited to English peer-reviewed published articles so non-English, theses or grey lit etc could have been missed. Limited details of search strategy makes it difficult to comment no idea how terms listed were combined etc
	Were the criteria used to select articles for inclusion appropriate?	Yes/No/Unclear Comment
	Were the included studies sufficiently valid for the type of question asked?	Yes/No/Unclear Comment
	Were the results similar from study to study?	Yes/No/Unclear Comment Generally & clear when different
	Are the results presented appropriately?	Yes/No/Unclear Comment
Are wellbeing measures/indicators/proxies clear?		PA or SD behaviour
Are housing measures/indicators/proxies clear?		Presence PA or SD equipment
Our views and overall comments on the quality of the paper and its applicability to our review of reviews		Good Applicable to review
Author/Year/ Paper ID		Kyle 2008 88

Self-reported methodological limitations (cut and paste from paper)		None given
Was quality assessment of primary studies undertaken for the review? Was this sufficient? If not, why not?		The strength of evidence for each study was assessed using criteria that were adapted from a review by Thomson <i>et al.</i> (2001). The terms accompanying the strength of evidence ratings are not intended to be pejorative, but simply to reflect a study's ability to support causal inferences. All of the reviewed studies make an important contribution to the knowledge base on the topic of housing and health for persons with SPMI. Very weak/ weak/ medium/ medium plus /strong.
Quality Assessment Instrument CEBM Systematic Review Checklist. Available from <a href="http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf">http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf</a>	What question (PICO) did the systematic review address?	Yes/No/Unclear Comment
	Is it unlikely that important, relevant studies were missed?	Yes/No/Unclear Comment
	Were the criteria used to select articles for inclusion appropriate?	Yes/No/Unclear Comment
	Were the included studies sufficiently valid for the type of question asked?	Yes/No/Unclear Comment
	Were the results similar from study to study?	Yes/No/Unclear Comment
	Are the results presented appropriately?	Yes/No/Unclear Comment
Are wellbeing measures/indicators/proxies clear?		Yes
Are housing measures/indicators/proxies clear?		Yes
Our views and overall comments on the quality of the paper and its applicability to our review of reviews		Very well explained systematic review. Appropriate methods and conclusions. No limitations of their own paper given.
Author/Year/ Paper ID		Lindberg (2010) #16524
Self-reported methodological limitations (cut and paste from paper)		<i>Future reviews should examine research published in other languages and countries.</i> (Jacobs 2010)
Was quality assessment of primary studies undertaken for the review? Was this sufficient? If not, why not?		Yes (Healthy Homes Expert Panel Meeting Intervention Research Evaluation Form, modified from "Assessing the strength of a body of evidence on effectiveness of population-based interventions in the <i>Guide to Community Preventive Services.</i> " Source: <a href="http://www.thecommunityguide.org/pubhealthpro.html">http://www.thecommunityguide.org/pubhealthpro.html</a> .  Yes, QA was sufficient but results of QA not reported.
Quality Assessme	What question (PICO) did the systematic review address?	Yes/No/Unclear YES Comment

nt Instrument CEBM Systematic Review Checklist. Available from <a href="http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf">http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf</a>	Is it unlikely that important, relevant studies were missed?	Yes/No/Unclear NO Comment Search appeared to be extensive
	Were the criteria used to select articles for inclusion appropriate?	Yes/No/Unclear YES Comment
	Were the included studies sufficiently valid for the type of question asked?	Yes/No/Unclear NO / UNCLEAR Comment: The results were reported according to strength of recommendation, based on strength of evidence.
	Were the results similar from study to study?	Yes/No/Unclear UNCLEAR Comment: Heterogeneity in terms of outcomes and measures.
	Are the results presented appropriately?	Yes/No/Unclear UNCLEAR Comment: Tabulated results would have been helpful to aid cross-intervention comparisons.
Are wellbeing measures/indicators/proxies clear?		No. Physical and mental health outcomes not linked explicitly with wellbeing. 'Social capital' outcomes described as 'wellbeing' but not clearly defined as wellbeing measures.
Are housing measures/indicators/proxies clear?		Yes
Our views and overall comments on the quality of the paper and its applicability to our review of reviews		Review was systematically undertaken (methods reported in Jacobs 2010). Strength of recommendations systematically reported. Reporting was concise and oversimplified the complexity of the interventions. Topic is highly applicable to our review of reviews.
Author/Year/ Paper ID		Mansell and Beadle-Brown (2009) #320
Self-reported methodological limitations (cut and paste from paper)		
Was quality assessment of primary studies undertaken for the review? Was this sufficient? If not, why not?		Discussion of quality assessments but no mention of actual tool used
Quality Assessment Instrument CEBM Systematic Review Checklist. Available from <a href="http://www.cebm.net/wp-">http://www.cebm.net/wp-</a>	What question (PICO) did the systematic review address?	Yes/No/Unclear Comment
	Is it unlikely that important, relevant studies were missed?	Yes/No/Unclear Comment Search didn't include any searches for grey literature
	Were the criteria used to select articles for inclusion appropriate?	Yes/No/Unclear Comment

<a href="#">content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf</a>	Were the included studies sufficiently valid for the type of question asked?	Yes/No/Unclear Comment
	Were the results similar from study to study?	Yes/No/Unclear Comment
	Are the results presented appropriately?	Yes/No/Unclear Comment Clear tables and discussion of results
Are wellbeing measures/indicators/proxies clear?		Yes
Are housing measures/indicators/proxies clear?		Yes
Our views and overall comments on the quality of the paper and its applicability to our review of reviews		Overall reasonable quality review that has good applicability to UK context however the current relevance of the research is questionable.
Author/Year/ Paper ID		Maitland et al (2013) #2243
Self-reported methodological limitations (cut and paste from paper)		<p>This review included the best available evidence from both observational and intervention studies, identifying a larger number of studies with relevant home physical environmental variables than previous reviews. However, there are some limitations to the process and scope of this review. Firstly, some studies may have been missed due to the nature of the search terms and there may be some publication bias to studies with significant results.</p> <p>Secondly, independent and outcome measures were pooled into categories which were useful for summarising evidence, but did not differentiate between very specific environmental measures. For example, the home media equipment category included presence of a TV, presence of a computer, density of media equipment and number of TVs in the home. Thirdly, the summary of the home social environment in isolation should be interpreted with caution as it was limited to papers that also included home physical environmental factors and only the most common social home environmental factors were investigated. Also, individual factors were not included in the review. Finally, the pre-adolescent age group was identified as particularly relevant for investigation, although we acknowledge that this age group encompasses both children and adolescents as defined in previous reviews, and may limit comparability.</p>
Was quality assessment of primary studies undertaken for the review? Was this sufficient? If not, why not?		Yes, NICE quality appraisal checklist and each article received overall score for internal and external validity.

Quality Assessment Instrument CEBM Systematic Review Checklist. Available from <a href="http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf">http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf</a>	What question (PICO) did the systematic review address?	Yes/No/Unclear Thus, it is timely to review the influence of the home physical environment on children's PA and sedentary behaviour. The aims of this review were to: (1) examine the impact of interventions that change the home physical environment on children's PA and sedentary behaviours; (2) summarise the association between home physical environmental factors and children's PA and sedentary behaviours; (3) explore the relationship of physical and social environmental factors operating within the home space; and (4) highlight current evidence limitations, measurement issues and future research directions. Comment Very broad question, could have been more focussed.
	Is it unlikely that important, relevant studies were missed?	Yes/No/Unclear Comment Search strategy limited to English language papers so could have missed papers from other countries. Search strategy combined all 3 concepts (population, intervention and setting) of the question with AND which could have missed papers that didn't included all information in title or abstract. Could be unpublished grey lit on topic that would be more likely to be studies showing poor or no association.
	Were the criteria used to select articles for inclusion appropriate?	Yes/No/Unclear Yes Comment
	Were the included studies sufficiently valid for the type of question asked?	Yes/No/Unclear Yes Comment
	Were the results similar from study to study?	Yes/No/Unclear Comment across some outcomes no across others but clear if results were similar or not
	Are the results presented appropriately?	Yes/No/Unclear Comment
Are wellbeing measures/indicators/proxies clear?	Yes, moderate to vigorous PA, sedentary behaviour	
Are housing measures/indicators/proxies clear?	Yes, Interventions were examining, or introducing changes to home environment	
Our views and overall comments on the quality of the paper and its applicability to our review of reviews	Good quality paper that is applicable to our review.	
Author/Year/ Paper ID	Millroy 2012 9563	

<p>Self-reported methodological limitations (cut and paste from paper)</p>	<p>There are various limitations of this review to consider. First, no standard definition of housing status was used by all studies included in the review. Some studies focused on outright homelessness while others involved those who lived in unstable conditions, such as single-room occupancy hotels and shelters. In order to best investigate the relationships of housing status on the health of PLWHA, all relevant studies were included. Details of the definition of housing status have been included in all cases where relevant. Second, although the impact of socioeconomic status is seen in all aspects of the global HIV/AIDS pandemic, our review has focused on the impact of housing status in North America. In addition, a substantial proportion of the research has been generated by the REACH cohort in San Francisco, California. However, the study is a large and longitudinal observational cohort recruited using rigorous sampling techniques that is believed to be representative of the homeless/marginally-housed population the area. Finally, there are some methodologic issues and limitations common to many studies, including difficulty retaining homeless/marginally housed individuals in intervention studies, the impossibility of conducting blinded studies, and need to allow for crossover. Future research should endeavor to employ developing statistical modeling techniques, including marginal structural causal models, to address these weaknesses</p>												
<p>Was quality assessment of primary studies undertaken for the review? Was this sufficient? If not, why not?</p>	<p>Not mentioned</p>												
<p>Quality Assessment Instrument CEBM Systematic Review Checklist. Available from <a href="http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf">http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf</a></p>	<table border="1"> <tr> <td data-bbox="416 1227 836 1323"> <p>What question (PICO) did the systematic review address?</p> </td> <td data-bbox="836 1227 1449 1323"> <p>Yes/No/Unclear Comment</p> </td> </tr> <tr> <td data-bbox="416 1323 836 1420"> <p>Is it unlikely that important, relevant studies were missed?</p> </td> <td data-bbox="836 1323 1449 1420"> <p>Yes/No/Unclear Comment</p> </td> </tr> <tr> <td data-bbox="416 1420 836 1516"> <p>Were the criteria used to select articles for inclusion appropriate?</p> </td> <td data-bbox="836 1420 1449 1516"> <p>Yes/No/Unclear Comment</p> </td> </tr> <tr> <td data-bbox="416 1516 836 1612"> <p>Were the included studies sufficiently valid for the type of question asked?</p> </td> <td data-bbox="836 1516 1449 1612"> <p>Yes/No/Unclear Comment</p> </td> </tr> <tr> <td data-bbox="416 1612 836 1709"> <p>Were the results similar from study to study?</p> </td> <td data-bbox="836 1612 1449 1709"> <p>Yes/No/Unclear Comment</p> </td> </tr> <tr> <td data-bbox="416 1709 836 1877"> <p>Are the results presented appropriately?</p> </td> <td data-bbox="836 1709 1449 1877"> <p>Yes/No/Unclear Comment Some of the results are tabulated numerically but there is key information missing from a number of sections e.g. how many studies are included.</p> </td> </tr> </table>	<p>What question (PICO) did the systematic review address?</p>	<p>Yes/No/Unclear Comment</p>	<p>Is it unlikely that important, relevant studies were missed?</p>	<p>Yes/No/Unclear Comment</p>	<p>Were the criteria used to select articles for inclusion appropriate?</p>	<p>Yes/No/Unclear Comment</p>	<p>Were the included studies sufficiently valid for the type of question asked?</p>	<p>Yes/No/Unclear Comment</p>	<p>Were the results similar from study to study?</p>	<p>Yes/No/Unclear Comment</p>	<p>Are the results presented appropriately?</p>	<p>Yes/No/Unclear Comment Some of the results are tabulated numerically but there is key information missing from a number of sections e.g. how many studies are included.</p>
<p>What question (PICO) did the systematic review address?</p>	<p>Yes/No/Unclear Comment</p>												
<p>Is it unlikely that important, relevant studies were missed?</p>	<p>Yes/No/Unclear Comment</p>												
<p>Were the criteria used to select articles for inclusion appropriate?</p>	<p>Yes/No/Unclear Comment</p>												
<p>Were the included studies sufficiently valid for the type of question asked?</p>	<p>Yes/No/Unclear Comment</p>												
<p>Were the results similar from study to study?</p>	<p>Yes/No/Unclear Comment</p>												
<p>Are the results presented appropriately?</p>	<p>Yes/No/Unclear Comment Some of the results are tabulated numerically but there is key information missing from a number of sections e.g. how many studies are included.</p>												
<p>Are wellbeing measures/indicators/proxies clear?</p>	<p>No</p>												
<p>Are housing measures/indicators/proxies clear?</p>	<p>No</p>												

Our views and overall comments on the quality of the paper and its applicability to our review of reviews		It is unclear to me whether this is a narrative review or a systematic review as it appears to have elements of both included in it.
Author/Year/ Paper ID		Milton 2012 15305
Self-reported methodological limitations (cut and paste from paper)		<i>...ambitious in scope, and its novel approach to synthesizing the enormous literature on community engagement meant that the research team had to work within pragmatic resource constraints.</i>  <i>Nevertheless, because the best quality evidence was prioritized for data extraction, we anticipate that the overall effect on the review of excluding the weaker studies was small. A further limitation is that the UK focus of the studies may limit the review findings' transferability to other international contexts.</i>
Was quality assessment of primary studies undertaken for the review? Was this sufficient? If not, why not?		Yes, QA undertaken Yes, sufficient
Quality Assessment Instrument CEBM Systematic Review Checklist. Available from <a href="http://www.cbm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf">http://www.cbm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf</a>	What question (PICO) did the systematic review address?	Yes/No/Unclear: Yes, clear question Comment
	Is it unlikely that important, relevant studies were missed?	Yes/No/Unclear: Unclear Comment: Review prioritised studies for inclusion within limited timeframe but prioritised higher quality studies.
	Were the criteria used to select articles for inclusion appropriate?	Yes/No/Unclear: Yes Comment: Given the timescale of the review
	Were the included studies sufficiently valid for the type of question asked?	Yes/No/Unclear: No Comment: Review comments on the methodological limitations of included studies and lack of evidence on main outcomes.
	Were the results similar from study to study?	Yes/No/Unclear: Unclear Comment
	Are the results presented appropriately?	Yes/No/Unclear Yes. Comment
Are wellbeing measures/indicators/proxies clear?		Yes
Are housing measures/indicators/proxies clear?		Yes
Our views and overall comments on the quality of the paper and its applicability to our review of reviews		High quality review in terms of systematic review process and high transparency of reporting. Applicable to our review of reviews, particularly in terms of specific references to wellbeing and community level impact.

Author/Year/ Paper ID		Narine, 2014 16165
Self-reported methodological limitations (cut and paste from paper)		None reported.
Was quality assessment of primary studies undertaken for the review? Was this sufficient? If not, why not?		No QA undertaken.
Quality Assessment Instrument CEBM Systematic Review Checklist. Available from <a href="http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf">http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf</a>	What question (PICO) did the systematic review address?	Yes/No/Unclear: Unclear Comment: Aim stated as to review the disparities in home ownership and values between whites and minority groups. The review actually offers a description of different, currently understudied perspectives as priorities for future research on the variables that might explain disparities between groups.
	Is it unlikely that important, relevant studies were missed?	Yes/No/Unclear: Yes Comment: No search strategy is reported
	Were the criteria used to select articles for inclusion appropriate?	Yes/No/Unclear: No Comment: No inclusion criteria reported.
	Were the included studies sufficiently valid for the type of question asked?	Yes/No/Unclear: Unclear Comment: No description of cited references is provided.
	Were the results similar from study to study?	Yes/No/Unclear: Unclear Comment: The review did not report results.
	Are the results presented appropriately?	Yes/No/Unclear: No Comment: The review did not present results.
Are wellbeing measures/indicators/proxies clear?		Yes.
Are housing measures/indicators/proxies clear?		Yes.
Our views and overall comments on the quality of the paper and its applicability to our review of reviews		This is not a systematic review nor an intervention or observational study. It provides a theoretical framework for the design and conduct of research into possible predictors of disparities in homeownership and value. It is useful as a background paper for our review of reviews.
Author/Year/ Paper ID		Nelson/2007/85
Self-reported methodological limitations (cut and paste from paper)		None reported
Was quality assessment of primary studies undertaken for the review? Was this sufficient? If not, why not?		Not reported
Quality Assessment Instrument CEBM Systematic Review	What question (PICO) did the systematic review address?	Yes/No/Unclear Comment
	Is it unlikely that important, relevant studies were missed?	Yes/No/Unclear Comment Limited number of databases, limited search

Checklist. Available from <a href="http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf">http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf</a>	Were the criteria used to select articles for inclusion appropriate?	Yes/No/Unclear Comment
	Were the included studies sufficiently valid for the type of question asked?	Yes/No/Unclear Comment
	Were the results similar from study to study?	Yes/No/Unclear Comment
	Are the results presented appropriately?	Yes/No/Unclear Comment
Are wellbeing measures/indicators/proxies clear?		Yes
Are housing measures/indicators/proxies clear?		Yes
Our views and overall comments on the quality of the paper and its applicability to our review of reviews		
Author/Year/ Paper ID		Reif 2014 308
Self-reported methodological limitations (cut and paste from paper)		Not given
Was quality assessment of primary studies undertaken for the review? Was this sufficient? If not, why not?		No
Quality Assessment Instrument CEBM Systematic Review Checklist. Available from <a href="http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf">http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf</a>	What question (PICO) did the systematic review address?	Yes/No/Unclear Comment
	Is it unlikely that important, relevant studies were missed?	Yes/No/Unclear Comment
	Were the criteria used to select articles for inclusion appropriate?	Yes/No/Unclear Comment
	Were the included studies sufficiently valid for the type of question asked?	Yes/No/Unclear Comment
	Were the results similar from study to study?	Yes/No/Unclear Comment
	Are the results presented appropriately?	Yes/No/Unclear Comment
Are wellbeing measures/indicators/proxies clear?		
Are housing measures/indicators/proxies clear?		No, not given
Our views and overall comments on the quality of the paper and its applicability to our review of reviews		Not sure about applicability – it is more about where the intervention is delivered than a housing intervention per se.
Author/Year/ Paper ID		Rog 2014 39

Self-reported methodological limitations (cut and paste from paper)		None given
Was quality assessment of primary studies undertaken for the review? Was this sufficient? If not, why not?		The research designs of the studies that met the inclusion criteria were examined. Three levels of evidence (high, moderate, and low) were used to indicate the overall research quality of the collection of studies. Ratings were based on predefined benchmarks that considered the number of studies and their methodological quality.
Quality Assessment Instrument CEBM Systematic Review Checklist. Available from <a href="http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf">http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf</a>	What question (PICO) did the systematic review address?	Yes/No/Unclear Comment
	Is it unlikely that important, relevant studies were missed?	Yes/No/Unclear Comment
	Were the criteria used to select articles for inclusion appropriate?	Yes/No/Unclear Comment
	Were the included studies sufficiently valid for the type of question asked?	Yes/No/Unclear Comment
	Were the results similar from study to study?	Yes/No/Unclear Comment
	Are the results presented appropriately?	Yes/No/Unclear Comment
Are wellbeing measures/indicators/proxies clear?		Housing status as a proxy for wellbeing
Are housing measures/indicators/proxies clear?		See above
Our views and overall comments on the quality of the paper and its applicability to our review of reviews		Very useful. Clear indication of the merits of permanent supportive housing.
Author/Year/ Paper ID		Sautkina, 2012
Self-reported methodological limitations (cut and paste from paper)		Limitations mainly directed at included evidence base rather than review approach
Was quality assessment of primary studies undertaken for the review? Was this sufficient? If not, why not?		Yes, undertaken Yes, sufficient QA instrument adapted from Thomson et al, 2009 (primary studies); Spencer et al., 2003 (qualitative studies)
Quality Assessment Instrument CEBM Systematic Review Checklist. Available	What question (PICO) did the systematic review address?	Yes/No/Unclear: Yes Comment
	Is it unlikely that important, relevant studies were missed?	Yes/No/Unclear: Yes (unlikely) Comment
	Were the criteria used to select articles for inclusion appropriate?	Yes/No/Unclear: Unclear. Comment: Mainly yes, but excluded studies already included in their previous review.

<p>from <a href="http://www.ebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf">http://www.ebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf</a></p>	Were the included studies sufficiently valid for the type of question asked?	Yes/No/Unclear: No Comment: Not according to the QA with the review
	Were the results similar from study to study?	Yes/No/Unclear: No. Comment
	Are the results presented appropriately?	Yes/No/Unclear: Yes Comment
Are wellbeing measures/indicators/proxies clear?		Yes
Are housing measures/indicators/proxies clear?		Yes
Our views and overall comments on the quality of the paper and its applicability to our review of reviews		Good quality review. Relevant topic. Applicability to wellbeing?
Author/Year/ Paper ID		Thomson et al, 2006
Self-reported methodological limitations (cut and paste from paper)		Even when an impact evaluation has been attempted this has often been unsuccessful. Evaluators frequently reported difficulties with data collection, preventing clear conclusions around impacts. This made identifying relevant evidence to synthesise for this review difficult. Common problems reported by evaluators included a lack of baseline data, lack of routine data that conform to target area boundaries, incomparable data between case study areas and a limited time scale in which to observe change in key outcomes. <sup>19 27–29 34–37</sup> Data were often collected at an area level rather than an individual level, and panel surveys to assess impacts on the original residents before and after the ABI investment were used in only one evaluation. <sup>32</sup>
Was quality assessment of primary studies undertaken for the review? Was this sufficient? If not, why not?		Yes Yes
<p>Quality Assessment Instrument CEBM Systematic Review Checklist. Available from <a href="http://www.ebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf">http://www.ebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf</a></p>	What question (PICO) did the systematic review address?	Yes/No/Unclear: Yes Comment
	Is it unlikely that important, relevant studies were missed?	Yes/No/Unclear: Unclear Comment: Studies were possibly missed because the study focussed on grey literature
	Were the criteria used to select articles for inclusion appropriate?	Yes/No/Unclear: Yes Comment
	Were the included studies sufficiently valid for the type of question asked?	Yes/No/Unclear: Unclear Comment: The aim of the review was specifically to identify 'grey literature' evaluations of impact in the absence of research studies.

<a href="#">content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf</a>	Were the results similar from study to study?	Yes/No/Unclear: Unclear Comment: Results are inconsistent but this is probably due to heterogeneity, the nature of the evaluations and the wide range of types of evaluation of impact included.
	Are the results presented appropriately?	Yes/No/Unclear: Yes Comment
Are wellbeing measures/indicators/proxies clear?		Yes
Are housing measures/indicators/proxies clear?		Yes
Our views and overall comments on the quality of the paper and its applicability to our review of reviews		<p>High quality review. Followed systematic procedures and was transparent.</p> <p>Does not contain high quality evidence. Specific aim of the review was to review evidence 'generated from policy and practice' in the form of impact evaluations.</p> <p>Difficult to separate out housing interventions within the broad areas covered by the initiatives. Perhaps just extract evidence relating specifically to impact of housing?</p> <p>Do socioeconomic impacts count as indicators of wellbeing – a bit circular as some of socioeconomic impacts are measured in terms of housing/</p>
Author/Year/ Paper ID		Tsai (2015) #644

<p>Self-reported methodological limitations (cut and paste from paper)</p>	<p>Interpretation of my findings is subject to several important limitations. First, as with all systematic reviews, I may have missed some studies, which would cause me to underestimate the extent of the literature on the adverse health and mental health impacts of foreclosure. It is also well known that qualitative studies can be difficult to locate using conventional search strategies [33]. However, I attempted to mitigate these possibilities by searching two bibliographic databases using a purposefully broad search protocol [34,35,36]. Second, there was considerable heterogeneity in the types of exposures and outcomes used, precluding a formal meta-analysis. The simple vote counting-styled procedure I employed to summarize my findings are characterized by low statistical power [37] and cannot assess the magnitude of the purported association. Nonetheless, the overall bent of the literature is fairly clear. Third, as previously noted, I excluded studies focused exclusively on earlier segments of the foreclosure process, such as mortgage delinquency or overall indebtedness or housing unaffordability. These studies generally yielded similar findings to those focused on foreclosure [38,39,40,41,42,43,44,45,46,47,48]. Therefore, it is highly unlikely that including them in my review would have altered my primary conclusions. Fourth, also as previously noted, I excluded studies about foreclosure, neighborhood degradation, and crime. These studies are principally drawn from the economics and sociology literature and are focused on testing sociological theories of disorder [49,50] or contagion effects of foreclosure on housing prices [51,52]. Finally, it is possible that publication bias may have affected the conclusions of my review. Unfortunately, methodological differences in the studies precluded the generation of summary measures that could permit such an analysis.</p>	
<p>Was quality assessment of primary studies undertaken for the review? Was this sufficient? If not, why not?</p>	<p>Yes</p> <p>Yes (for quantitative) No (for qualitative)</p> <p>No reporting of QA of qualitative studies (6/35 (17%))</p> <p>QA tool (for quantitative) adapted from: Sanderson S, Tatt ID, Higgins JP (2007) Tools for assessing quality and susceptibility to bias in observational studies in epidemiology: a systematic review and annotated bibliography. <i>Int J Epidemiol</i> 36: 666–676. PMID: <a href="https://pubmed.ncbi.nlm.nih.gov/17470488/">17470488</a></p>	
<p>Quality Assessment Instrument</p>	<p>What question (PICO) did the systematic review address?</p>	<p>Yes/No/Unclear Yes, clear question Comment</p>

CEBM Systematic Review Checklist. Available from <a href="http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf">http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf</a>	Is it unlikely that important, relevant studies were missed?	Yes/No/Unclear No, not unlikely. Studies may have been missed. Comment: Only two databases searched (PsycINFO, Pubmed). Could have covered disciplines more broadly (e.g. social sciences)
	Were the criteria used to select articles for inclusion appropriate?	Yes/No/Unclear Yes Comment
	Were the included studies sufficiently valid for the type of question asked?	Yes/No/Unclear No Comment: 26/29 (90%) of quantitative studies judged to be at risk of bias.
	Were the results similar from study to study?	Yes/No/Unclear Yes Comment
	Are the results presented appropriately?	Yes/No/Unclear Unclear Comment: Summary presentation of results mainly (e.g. proportion of included studies reporting worsened studies). Narrative presentation mainly (i.e. little tabulation of results). Some reporting of significance of results.
Are wellbeing measures/indicators/proxies clear?		Indicators = physical and mental health These are not presented explicitly as indicators of wellbeing.
Are housing measures/indicators/proxies clear?		Yes.
Our views and overall comments on the quality of the paper and its applicability to our review of reviews		Systematic in terms of review process.  Depth of analysis of results of included studies not well reported (i.e. outcomes reported mainly as worsening or improved, not, on the whole as quantitative estimates).  Highly applicable to our review in terms of topic. No explicit link from mental and physical outcomes to wellbeing. Though, comments on mental health impact at both individual and community (neighbourhood) level.
Author/Year/ Paper ID		Varady, 2010 #16497
Self-reported methodological limitations (cut and paste from paper)		None reported.
Was quality assessment of primary studies undertaken for the review? Was this sufficient? If not, why not?		No.

Quality Assessment Instrument CEBM Systematic Review Checklist. Available from <a href="http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf">http://www.cebm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf</a>	What question (PICO) did the systematic review address?	Yes/No/Unclear Yes, clear question. Comment
	Is it unlikely that important, relevant studies were missed?	Yes/No/Unclear Unclear. Comment: No search strategy reported. No specification as to how studies were identified.
	Were the criteria used to select articles for inclusion appropriate?	Yes/No/Unclear No. Comment: No selection criteria reported.
	Were the included studies sufficiently valid for the type of question asked?	Yes/No/Unclear Unclear Comment: No description of included study designs
	Were the results similar from study to study?	Yes/No/Unclear Yes Comment: But not clear how studies selected, therefore not clear whether other studies would have different results.
	Are the results presented appropriately?	Yes/No/Unclear No. Comment: Results of individual studies not reported systematically.
Are wellbeing measures/indicators/proxies clear?		Outcomes / measures are not identified as wellbeing measures
Are housing measures/indicators/proxies clear?		Yes
Our views and overall comments on the quality of the paper and its applicability to our review of reviews		This is not a systematic review. No systematic review methods are reported. Its reliability in terms of effectiveness evidence is open to question. It is however a detailed commentary, drawing on 'scholarly literature' on issues relating to housing voucher schemes. The topic and the commentary is highly applicable to our review.
Author/Year/ Paper ID		Varady 2013 15265
Self-reported methodological limitations (cut and paste from paper)		None reported
Was quality assessment of primary studies undertaken for the review? Was this sufficient? If not, why not?		No.
Quality Assessment Instrument CEBM Systematic Review	What question (PICO) did the systematic review address?	Yes/No/Unclear Yes, clear question. Comment
	Is it unlikely that important, relevant studies were missed?	Yes/No/Unclear Unclear Comment. No systematic search strategy reported. No

<p>Checklist. Available from <a href="http://www.cbm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf">http://www.cbm.net/wp-content/uploads/2014/06/diy-systematic-review-appraisal-worksheet.pdf</a></p>	<p>Were the criteria used to select articles for inclusion appropriate?</p>	<p>Yes/No/Unclear No. Comment: No selection criteria reported.</p>
	<p>Were the included studies sufficiently valid for the type of question asked?</p>	<p>No Comment: Paper makes frequent reference to the limitations of the evidence.</p>
	<p>Were the results similar from study to study?</p>	<p>Yes/No/Unclear Yes Comment Any differences in results were discussed and explanations hypothesised.</p>
	<p>Are the results presented appropriately?</p>	<p>Yes/No/Unclear Unclear Comment: Attempt to tabulate results though narrative text is difficult to dissect.</p>
<p>Are wellbeing measures/indicators/proxies clear?</p>		<p>Outcomes / measures are not identified as wellbeing measures</p>
<p>Are housing measures/indicators/proxies clear?</p>		<p>Yes</p>
<p>Our views and overall comments on the quality of the paper and its applicability to our review of reviews</p>		<p>This is not a systematic review. No systematic review methods are reported. Its reliability in terms of effectiveness evidence is open to question. It is however a detailed commentary, drawing on a broad range of publications on issues relating to housing voucher schemes. The general topic of the economic housing situation, the complexity of housing interventions and the impact of interventions on the neighbourhood are highly applicable to our review.</p>

## Appendix Five – List of included studies with DOI or Link where Open Access

Included Paper	DOI
Addis 2009	<a href="http://dx.doi.org/10.1111/j.1365-2524.2009.00866.x">http://dx.doi.org/10.1111/j.1365-2524.2009.00866.x</a>
Aidala 2016,	<a href="http://dx.doi.org/10.2105/AJPH.2015.302905">http://dx.doi.org/10.2105/AJPH.2015.302905</a>
Atyeo 2013	<a href="http://dx.doi.org/10.2174/1573400511309030004">http://dx.doi.org/10.2174/1573400511309030004</a>
Bassuk 2014	<a href="http://dx.doi.org/10.1037/ort0000020">http://dx.doi.org/10.1037/ort0000020</a>
Benston 2015	<a href="http://dx.doi.org/10.1176/appi.ps.201400294">http://dx.doi.org/10.1176/appi.ps.201400294</a>
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