what works wellbeing

heritage and wellbeing

The impact of historic places and assets on community wellbeing - a scoping review

Technical Report

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Review Team: Andy Pennington[1], Rebecca Jones[2], Anne-Marie Bagnall[2], Jane South[2], Rhiannon Corcoran[1]

1 Institute of Psychology, Health and Society, University of Liverpool

2 Centre for Health Promotion Research, Leeds Beckett University

Contact:
Andy Pennington
Department of Public Health and Policy
University of Liverpool
Whelan Building
Brownlow Hill
Liverpool
L69 3GB
Email: ajpenn@liverpool.ac.uk

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UNIVERSITY OF LIVERPOOL

Community Wellbeing Evidence Programme
What Works Centre for Wellbeing
www.whatworkswellbeing.org
@whatworksWB

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1. Background

This report was commissioned by the What Works Centre for Wellbeing (WWC-WB). The WWC-WB is part of a network of What Works Centres: an initiative that aims to improve the way the government and other organisations create, share and use high quality evidence for decision-making. The WWC-WB aims to understand what governments, businesses, communities and individuals can do to improve wellbeing. They seek to create a bridge between knowledge and action, with the aim of improving quality of life in the UK. This work forms part of the WWC-WB Community Wellbeing Evidence Programme, whose remit is to explore evidence on the factors that determine community wellbeing with a focus on the synthesis and translation of evidence on **Place** (the physical characteristics of where we live), **People** (the social relationships within a community) and, **Power** (the participation of communities in local decision-making).

Large sections of the population in the UK live and work in places steeped in history. Recent surveys in England have found that ninety-five percent of adults thought it important to look after heritage buildings, seventy-three percent had visited a heritage site over twelve months, over 315,000 people were heritage volunteers, and eighty percent of people thought that local heritage makes their area a better place to live (DCMS, 2015; Historic England, 2017). A large amount of research has been conducted within public health and inequalities research on urban determinants of health and wellbeing in recent years. This, for example, has included reviews of theory and evidence on associations between greenspace and health, and the role of built environment interventions in addressing fear of crime and mental wellbeing (van den Berg et al, 2015; Lorenc et al, 2013). However, despite the prominence of heritage in the physical, social, economic and cultural landscapes of the UK, there are gaps and limitations in our understanding of how historic places and assets influence community wellbeing.

To address this and serve as a foundation for future research and practice, the Community Wellbeing Evidence Programme conducted a systematic scoping review of evidence on the impacts of historic places and assets on community wellbeing.

Aims of the scoping review

The review aimed to locate, assess, and synthesise evidence on the impacts of historic places and assets on community wellbeing. It aimed to describe the state of the current

evidence base, including the scope and nature of the evidence, including strengths, weaknesses, and gaps in the existing evidence in the context of community wellbeing.

Review questions (RQs)

The systematic scoping review addressed the following questions and sub-question:

RQ1. What is the evidence on the effects (beneficial and adverse) of historic places and assets on community wellbeing?

> **RQ1a**. Is there evidence of wellbeing inequalities resulting from the differential distribution of effects across population sub-groups, including age, socioeconomic status, gender, ethnicity and disability status?

RQ2. What are the strengths, weaknesses and gaps in the current evidence base (for example, by nature of intervention, setting, population group, or by strength of study designs)?

Scope and definitions of key concepts

Scope

The review focussed on evidence on the community wellbeing-related impacts of historic places and assets (tangible heritage resources). This included evidence from both intervention studies and observational studies (defined below).

For the purpose of this review, **historic places and assets** may include:

- Monuments, castles, and ruins.
- Historic buildings such as museums, galleries, theatres, stadia, and other public or private buildings.
- Historic parks and gardens.
- Historic places of worship.
- Cemeteries, churchyards, and burial grounds.
- Conservation sites and areas.
- Community archaeological sites.
- Historic urban areas, described, for example, as the ‘old town’ or ‘old quarter’. Examples include The Old Quarter in Marbella Spain, The Rambles in York England, and the Canal District in Amsterdam Netherlands.

- Examples of 'everyday' physical heritage features in communities, for example, Victorian terraces and public houses (not covered by conservation area, listed building or other current designations).[1]

Although the primary focus of the review was on studies and evaluations of the wellbeing-related impacts of historic places and assets set within the 'living environment' of communities and not on more structured settings such as work places, we also considered evidence from evaluations of intervention projects that used historic objects/artefacts, for example, in the care of people with dementia in care homes and other healthcare settings (partly to allow a comparison of methodological approaches across settings).

Heritage

Heritage was defined as:

'Inherited resources which people value for reasons beyond mere utility.' (English Heritage, 2008).

Heritage-based intervention

The following working definition of heritage-based interventions was used:

'Designing, modifying and/or delivering historic places or assets as a key element of an activity that has an observed impact on people.'

Examples of historic places and assets are shown above.

For the purpose of this scoping review, we take a very broad view of what constitutes an 'intervention' to include existing historic places and assets that may be provided or supported by public policy, for example, by including evidence on the general wellbeing-related impacts of museums and the impacts of living in historic places. This takes us beyond a traditional demarcation of an 'intervention' (e.g. intervening to change the layout of a park) to the additional consideration of 'exposures' to historic places and assets.

[1] Current theory and evidence indicate that higher levels of collective/community control are beneficial to health and wellbeing (Whitehead et al., 2016; Pennington et al., 2018). Communities should, therefore, have opportunities to determine (to 'control') which 'everyday' heritage places and assets are important (in addition to official designations); we simply provide some potential examples.

Wellbeing

Wellbeing is now increasingly being used as a measure of the success of communities and nations. Inspired by the work of Amartya Sen, Martha Nussbaum and others in their attempts to identify measures of the quality of life within and across communities, the use of the term wellbeing as a political goal is, in part, a rejection of perceived inadequacies of solely economic measures such as the use of Gross Domestic Product (GDP) at national levels (Nussbaum and Sen, 1993). Whilst there are many well-known and widely used measures and scales of wellbeing at an individual level, wellbeing is currently less well defined at a community level.

For the purpose of this review we adopted the Office of National Statistics (Self A, 2014) definition of wellbeing:

'***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
- Personal wellbeing
- Our relationships
- Health
- What we do
- Where we live
- Personal finance
- The economy
- Education and skills
- Governance' (ESRC, 2014).

Community wellbeing

The definition of community wellbeing developed during the collaborative development phase of the Community Wellbeing Evidence Programme was also taken into consideration:

'***Community wellbeing*** *is about strong networks of relationships and support between people in a community, both in close relationships and friendships, and between neighbours and acquaintances*' (Community Wellbeing Evidence Programme, 2015).

In addition, concepts related to community wellbeing such as 'social wellbeing', 'social capital', 'social cohesion', 'social inclusion', and 'community resilience' were also considered (Elliot et al. 2013).

When we refer to ‘community wellbeing’ throughout this document, this includes the wellbeing of individuals and groups, and determinants of their wellbeing, as components of community wellbeing.

Further information on conceptualisation and measurement of community wellbeing can be found in three WWC-WB Community Wellbeing Evidence Programme reviews:

- Atkinson et al. (2017) What is Community Wellbeing? *Conceptual review*.
- South et al. (2016) Building community wellbeing – an initial theory of change.
- Bagnall et al. (2017) Systematic scoping review of indicators of community wellbeing in the UK.

Wellbeing inequality

For the purpose of this review, we defined wellbeing inequality as:

Variations in levels of wellbeing within and across population sub-groups, that are typically avoidable, unfair and unjust, including by area, socioeconomic status, age, gender, health and disability status, sexuality, and religion. (Based on Whitehead, 1991).

Health

The term ‘health’ is used frequently throughout this report for three reasons:

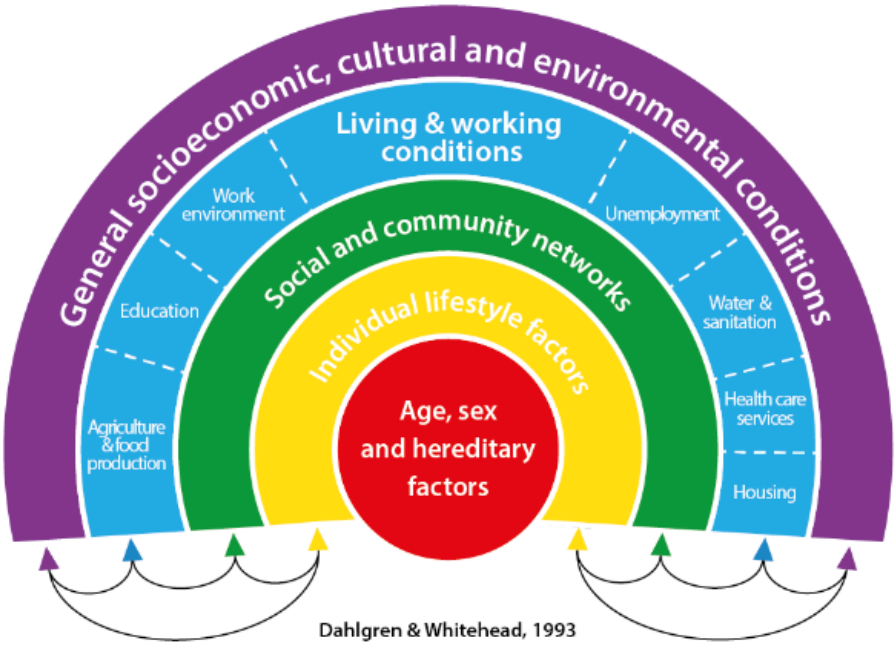
i. Physical and mental health are components/domains of our definitions and conceptualisation of wellbeing and community wellbeing.
ii. Overlaps in definitions of wellbeing and definitions of health can be found in most theoretical literature. The overlaps work in both directions, with some viewing health as an integral component of wellbeing, and others viewing wellbeing as an integral component of health.
iii. Many of the studies that measure *outcomes* relevant to wellbeing are to be found within public health, health inequalities, and social determinants of health literature. Other literatures often fail to measure and report such outcomes.

We therefore also describe our conceptualisation of health here. We use the long-established, widely used and broad definition of health from the constitution of the World Health Organization (1948):

‘Health is a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity.’

In our conceptual framework for understanding *health*, we also use the Dahlgren and Whitehead (1993) Socio-environmental model of the determinants of health (widely known as the 'rainbow model of health' - Figure 1) that coincides with the domains/determinants of wellbeing used by the ONS (2015).

Figure 1. Socio-environmental model of the determinants of health (Dahlgren and Whitehead, 1993)



Observation/observational studies

'*Observational studies… are those where the investigator is not acting upon study participants, but instead observing natural relationships between factors and outcomes*' (Thiese, 2014). In observational studies no attempt ('intervention') is made to influence how participants are exposed to potential determinants (independent variables) under investigation. Potential outcomes (on dependent variables) are simple observed (through qualitative, quantitative or mixed-method approaches).

Intervention/interventional studies

'*Interventional study designs, also called experimental study designs, are those where the researcher intervenes at some point throughout the study* [i.e. influencing independent variables]. *The most common and strongest interventional study design is a randomized controlled trial, however, there are other interventional study designs, including pre-post study design, non-randomized controlled trials, and quasi-experiments'*. (Thiese, 2014)

Theory of change

The Community Wellbeing Evidence Programme consortium has produced a working Theory of Change (South et al. 2017), in which place (where we live) is proposed to have a mechanistic and cyclical relationship with community wellbeing (figure 2).

Figure 2. Theory of change of what works to increase community wellbeing (South et al. 2017)

2. Methods

Scoping reviews must strike a balance between breadth, brevity and rigour.

BREADTH: The review used comprehensive search techniques to 'cast a broad net' over the evidence base on physical heritage-based interventions and wellbeing.

RIGOUR: Methods were adapted from standard approaches to study identification, data extraction, evidence appraisal, and synthesis used in systematic reviews, as described in the WWC-WB Methods Guide (Snape et al., 2017). Reporting was informed by PRISMA and PRISMA-Equity guidelines (Moher et al., 2009; Welch et al., 2013).

BREVITY: Some approaches were less in-depth when compared to a 'full' systematic review, for example, methodological quality appraisal was conducted using tools adapted to streamline the process of assessment, and to increase suitability for this type of evidence (predominantly concerned with complex social interventions in community settings, as opposed to more structured and standardised settings and interventions). We also only included the most recent versions of series of evaluation reports, and only included reviews that contained new data or analysis (any primary studies from previous reviews were also, separately subjected to this reviews inclusion/exclusion process). This allowed for the inclusion of a wider body of evidence within logistical constraints (time, resources), and the tailoring of methods to this particular type of evidence - on complex social determinants of wellbeing in community settings.

Search strategy

A search strategy was developed and implemented by experienced systematic reviewers. The aim of the search was to identify all evidence on physical heritage-based interventions that considered impacts on community wellbeing-related outcomes.

The following **electronic databases** were searched: MEDLINE, MEDLINE In-Process & Other Non-Indexed Citations, Social Sciences Citation Index (SSCI), PsycINFO. Examples of the MEDLINE and SSCI search strategies are in Appendix 1.

Searches of **grey literature** were conducted via the Conference Proceedings Citations Index, ProQuest Dissertations & Theses, OpenSIGLE, Google, Google Scholar, and through searches for, and inspection of, specialist databases. An example of the Google search and results are in Appendix 2. We anticipated that much of the existing evidence would be in the

grey literature. We therefore conducted advanced searches of grey literature sources (involving the use of search string combinations, not just simple word or phrase searches) and complimented this with manual searches of websites.

A **call for evidence** was be issued by the WWC-WB and distributed to a mailing list of over 1200 **academics and practitioners** who expressed an interest in evidence on community wellbeing during the Voice of the User stakeholder engagement phase of the Community Wellbeing Evidence Programme, and shared on social media. The call for evidence was also be distributed (via social media and email) to specialist research and discussion groups concerned with the potential impacts of heritage-based interventions on community wellbeing (for example, Heritage@Jiscmail.ac.uk).

We contacted **academic experts** on the health and wellbeing impacts of heritage-based interventions, from the fields of public health, health inequalities, human/social geography, psychology, and heritage-related disciplines (e.g. archaeology, cultural studies). We also received recommendations for evidence from the advisors listed on page 18.

We also scrutinised the introduction, background, and reference lists of included papers to identify additional studies through 'citation snowballing'.

Identification of studies

Results of the searches of electronic databases were de-duplicated and uploaded to EPPI-reviewer 4 systematic review management software, which was used to store information, screen evidence for inclusion/exclusion, and help manage the review process (Thomas, Brunton & Graziosi, 2010).

The results of searches were screened through two stages. First, a random 20 percent of the same titles and abstracts were screened separately by two reviewers, followed by a 'calibration' exercise to ascertain levels of agreement. Once agreement between both reviewers was reached (on >90 percent of includes/excludes), the remaining titles and abstracts were screened by a single reviewer. Second, full-text copies of relevant papers were obtained and assessed for inclusion by two reviewers based on the inclusion and exclusion criteria outlined in Table 1. Throughout the process, any queries and disagreements were resolved by discussion, or by recourse to a third reviewer.

Table 1: Inclusion and exclusion criteria

	Include	Exclude
Population / setting	Studies on individuals and groups in OECD countries.	Studies conducted on populations in non-OECD countries.
Intervention or exposure	Studies reporting evidence on historic places and assets.	Interventions that are not based in or on historic places and assets. Interventions located in museums but solely related to arts (with no heritage components).
Comparators	Quantitative and qualitative studies with or without comparators.	n/a
Outcomes:	Outcomes related to any of the dimensions of wellbeing (p7) (including 'intermediate outcomes', also known as 'determinants'), and subjectively or objectively measured individual or population outcomes.	Outcomes not related to any of the dimensions of community wellbeing.
Study design & publication characteristics	Qualitative, quantitative or mixed-method primary studies. Reviews containing new data or analysis. Studies published between 1990 and present day. Studies published in English language.	Opinion and discussion pieces. Studies conducted prior to 1990. Studies not published in English language.

Essentially, studies were only included if they incorporated each of the following components:

A. Examined primary (new) empirical evidence on historic places and assets.
B. Examined community wellbeing-related outcomes.
C. Were conducted in the 'living environments' of communities or in healthcare settings in high income (OECD) countries.
D. Were published in English between 1990 and 2018.

Studies that failed to incorporate all four components A to D were excluded. We excluded studies not published in English as we lacked the skills within the team necessary to design and implement foreign language searches across academic and grey literature sources, or to interpret results reported in other languages.

Studies that focussed solely on art in museums (whether viewing or creating) were also excluded unless the intervention also involved activities related to heritage, for example, handling of historical objects, heritage inspired arts and crafts, tours of collections or

facilities. Although we acknowledge many works of art are historic assets, this is not always the case and it can be difficult to distinguish from limited information in publications. This helped to make the numbers of studies included in the review more manageable and more focussed on historic places and assets. Art interventions can also be delivered in other/non-heritage settings. There is a body of evidence on this topic and examples can be found in Binnie (2013).

Data extraction

Data from each included study was extracted into a pre-designed and piloted extraction table. The extractions were completed by one reviewer and checked for accuracy by another. Extracted data included: study aims, study design, population, intervention or exposure, setting/country and main findings in relation to the review questions. Owing to logistical constraints, and the large number of relevant studies located, it was not possible to contact study authors for any unclear, missing or additional data (though we did attempt to find additional sources containing further detail on methods if cited).

Methodological quality assessment

The included studies are heterogeneous in terms of methods employed and interventions, exposures and populations studied. Compared to studies of more narrowly defined biomedical/clinical interventions evaluated, for example, by Randomised Controlled Trials (known as the 'gold standard' in intervention study design), most of the evidence was from studies of low methodological quality. This is common for evaluations of complex social interventions in community settings, were issues of complexity and community control over implementation prevent standardisation of interventions across heterogenous participant groups, settings, and implementation approaches. Most of the included studies were of complex social determinants ('exposures') or interventions, with one exception being the object handling sessions delivered in more structured environments of healthcare settings (in comparison to the 'living environments' of communities), using approaches that are more easily standardised. We initially appraised a sample of the included quantitative and (quantitative components of) mixed-method studies using a checklist that was adapted by the WWC-WB review methods team from an Early Intervention Foundation methodological quality appraisal tool (Snape et al., 2017). While this tool appropriately '*emphasises the value of randomized controlled trials (RCTs) and similarly rigorous quasi-experimental designs (QEDs)*' which are mostly concerned with studies of more 'neatly' defined, homogenous, healthcare-related interventions and settings, we found that it was of limited

use in the assessment of the majority of this evidence; all of the sample studies were rated as low quality. Use of this tool would therefore have provided little insight into the relative strengths and weaknesses of the different designs used in these particular studies; it would also have provided a limited basis for the identification of examples of relative 'good' practice in evaluation that could be used to inform the design of future studies.

We, therefore, appraised quantitative studies based on (1) strength of study design, paying particular attention to the ability of study designs to establish causal inference ('cause and effect') in comparison to simple associations/correlations which provide no insight into the direction of associations (whether a change in one variable led to a change in another, or the other way around), with single time-point cross-sectional studies being rated as lower quality than repeated measures studies (e.g. before and after studies). We rated studies with control/comparator groups as higher quality than those without comparator groups. We also considered (2) how representative the sample/participants were of the target population based on sampling methods and sample size. No appropriate checklist was available for this task, particularly in light of the limited time and resources available, and the nature of this body of evidence as described above. It's important to highlight that although this scoping review draws on a range of systematic review methods, it is not a full systematic review, and we only set out to provide some initial insight in the quality of methodological designs used across this large body of evidence.

We appraised the quality of qualitative studies (or the qualitative components of mixed-method studies) using the CerQual checklist, based on a CASP approach (See Snape et al., 2017).

We simply distinguish between higher and lower methodological quality evidence – within this body of evidence. In addition, descriptive case-studies were rated as of lowest methodological quality in comparison to other study designs. It is not appropriate to make direct comparisons between the quality assessments used in this scoping review and those used in other, methodologically different, WWC-WB reviews (noting other WWC-WB reviews are different: they are systematic reviews, or reviews of review-level evidence). Potential implications of the quality of the evidence is considered within the discussion section.

Transferability assessment

Interventions that were designed, implemented and evaluated in other countries and settings may not always map well to other living environments (Bagnall et al., 2016; O'Mara-Eves et

al., 2013; Savage et al., 2010; South et al. 2010). Cultural and political climates, policies and programme funding may also change over time, and this may affect the relevance and transferability of research findings (Bagnall et al., 2016, South et al., 2016). The included publications contained very limited information on a range of factors relating to potential transferability, for example, very few of the publications reported information on set-up costs, operational costs, or sources of funding. We, therefore, limited the assessment of the potential transferability of interventions to information that was available for all the studies - whether the intervention settings and populations are common in the UK.

Data synthesis

Evidence addressing the review questions was narratively synthesised (Mays et al 2005; Popay et al 2006; Whitehead et al., 2014). This includes:

- Thematic analysis of data based on the review questions.
- Exploration of relationships within and between studies.
- The strength of evidence based on the critical appraisal.
- Any contradictions in findings.
- Consideration of differential impacts in relation to gender, socioeconomic status, ethnicity, disability status, or other population characteristics (i.e. wellbeing inequalities).

Higher quality studies are presented first, grouped by categories/themes of evidence, and in greater detail.

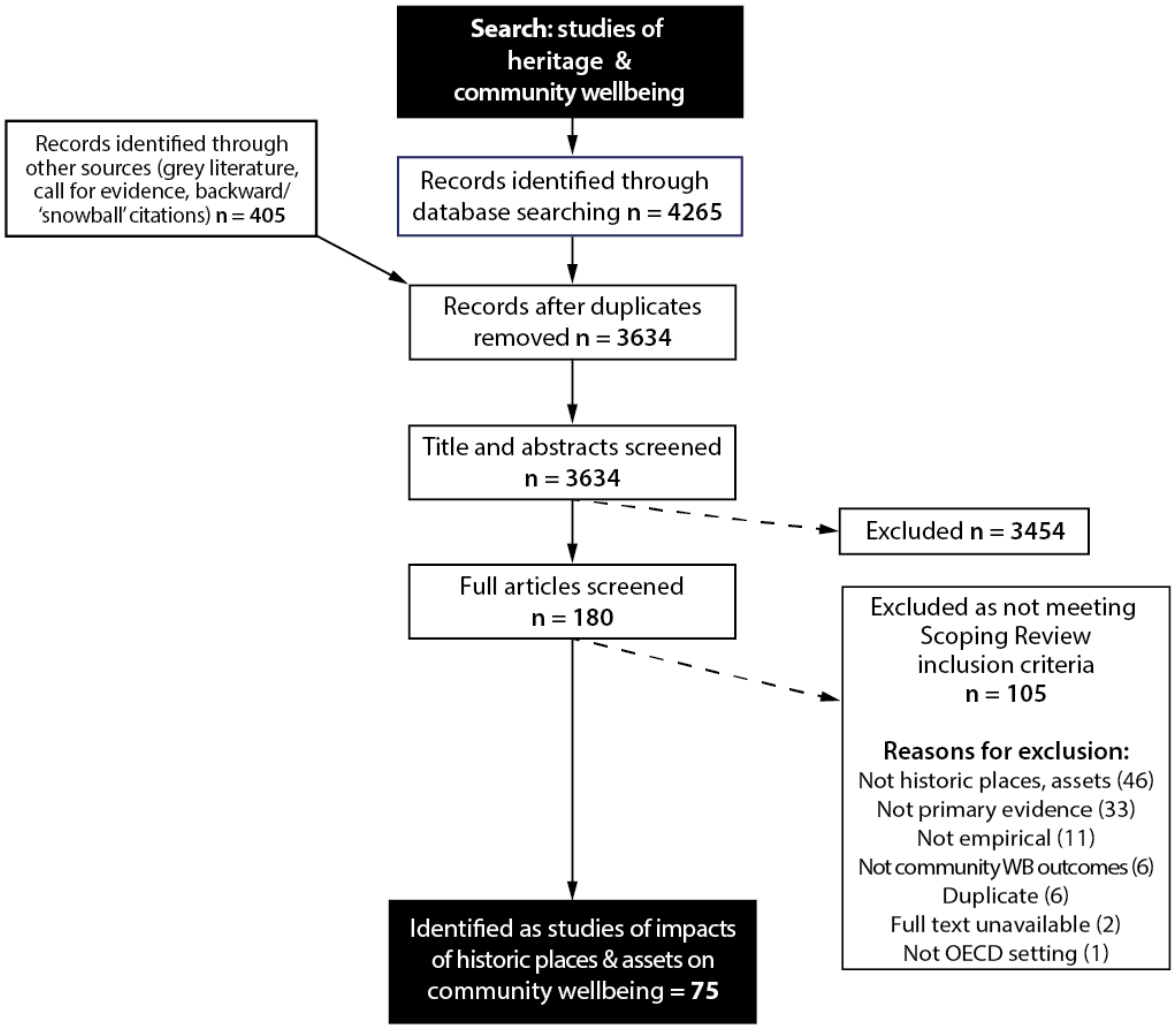
Studies that passed the review inclusion criteria were categorised into **themes of evidence** that emerged inductively during examination of the studies, informed by discussion with the review advisors.

3. Results

Results of the literature search

From an initial 3634 unique records, seventy-five publications that met our inclusion criteria were included. Figure 3 shows the progression of studies through the scoping review process.

Figure 3. PRISMA flow chart of the progression of studies through the review



Appendix 3 contains a list of the studies excluded at the full-text screening stage, and the reasons for exclusion.

Characteristic of included studies

A list of the 75 included studies is contained within Appendix 4. Key characteristics of the included studies are summarised in Table 2.

Table 2 Characteristics of included studies

Study	Main evidence theme	Country	Main setting/s	Main populations participating	Main aims of evaluation (wellbeing-related)	Design; main methods	QA	Attempt to account for confounding by SES?
1. Balshaw, Undated	Heritage-based cultural activities in museums	UK	Museums & archive	Physical & mental health patients (young to older)	To raise awareness of value of heritage within healthcare.	Descriptive case studies	Lowest quality	N/A
2. Flow Associates, 2017	Heritage-based cultural activities in museums	UK	Various sites within the Happy Museum network	Stakeholders from across the Happy Museums, including staff, participants, volunteers	To synthesize evidence (3 evaluations) on wellbeing-related impacts on individuals, organisations, communities. To compare to similar initiatives.	Mixed-method Theory of changed based Surveys (including before & after) Interviews Observation	Higher quality	No
3. Froggett et al, 2011	Heritage-based cultural activities in museums	UK (England)	Museums	'Disadvantaged' groups including with dementia, mental illness, disabled, homeless	To assess health & wellbeing impacts of heritage-based arts focussed museum activities	Qualitative Interviews Observation Survey Documentary analysis	Higher quality	N/A
4. Neal & Coe, 2013	Heritage-based cultural activities in museums	UK (England)	Museum garden in London	Older people	To assess health & wellbeing benefits of project	Mixed-method Surveys Interviews Observation Focus groups	Lower quality	No (though targeted at specific population)
5. Morse et al., 2015	Heritage-based cultural activities in museums	UK (England)	Museums, archives & partner	Mental health & addiction recovery service users	To examine the effects of museum outreach sessions on confidence, sociability	Mixed-method Repeated measures (repeat cross-sectional)	Higher quality	No

Study	Main evidence theme	Country	Main setting/s	Main populations participating	Main aims of evaluation (wellbeing-related)	Design; main methods	QA	Attempt to account for confounding by SES?
			organisation venues		and wellbeing for mental health and addiction recovery service users.	Surveys Observation		
6. Neal, 2012	Heritage-based cultural activities in museums	UK (Wales)	Museums	Adult physical & mental health service users (carers & patients)	To assess impact on wellbeing of arts-based activity programme proceeded by museum tour, object handling & discussions.	Mixed-method Before & after Interviews Case studies Documentary analysis Focus groups	Higher quality	No
7. Thomson et al, 2018	Heritage-based cultural activities in museums	UK (England)	Museums (London & Kent)	Vulnerable older adults (aged 65-94) referred to a museum-based programme	To assess impacts on psychological wellbeing of Museums on prescription	Mixed-method Within-participants' design Before & after Interviews Participant & researcher diaries	Higher quality	No
8. Todd et al., 2017	Heritage-based cultural activities in museums	UK (England)	Museums (London & Kent)	Socially isolated older people (65-87 years old)	To assess impacts of social prescribing intervention on social isolation of older people	Qualitative design reported in this paper though part of a Mixed-method study Interviews Participant diaries	Higher quality	N/A
9. Wilson & Whelan, 2014	Heritage-based cultural activities in museums	UK (England)	Museums and galleries (Birmingham, Leicester Guildhall; Nottingham).	Carers of people with dementia (workforce from residential care, domiciliary care, hospital, housing) who participated in the training programme.	To evaluate a new House of Memories Dementia Awareness Training Programme for health & social care staff	Mixed-method Quant survey Qual SROI	Lower quality	N/A
10. Dodd & Jones, 2014	Heritage-based cultural activities in museums	UK (England)	5 museums in the East	Participants from various projects involving children	To assess impacts of projects on emotions. To show potential of	Mixed-method	Higher quality	No

Study	Main evidence theme	Country	Main setting/s	Main populations participating	Main aims of evaluation (wellbeing-related)	Design; main methods	QA	Attempt to account for confounding by SES?
	Heritage object handling in healthcare settings (& via online)		Midlands region	& young people (from schools, youth groups, hospital school), older people (in community, & residential or care homes)	museums to contribute to public health & reduction of inequalities	Survey ('wellbeing umbrellas') - before & after Observation Interviews		
11. Goddard & Rasbery, Undated	Heritage-based cultural activities in museums (& other settings including healthcare)	UK (England)	Various culture, heritage, community, & healthcare sites.	People with mental health issues	To describe the health & wellbeing-related impacts of heritage-based cultural activities	Descriptive case studies	Lowest quality	N/A (though targeted at vulnerable group)
12. Balshaw, Undated	Heritage-based cultural activities in museums	UK	Museums & archive	Physical & mental health patients (young to older)	To raise awareness of value of heritage within healthcare.	Descriptive case studies	Lowest quality	N/A
13. Ridley, 2014	Heritage-based cultural activities in museums (for vulnerable through Museum Mentors)	UK (England)	Museum (Brighton)	Adults with complex social care needs including mental health issues, social isolation, experience of prejudice, discrimination	To assess impacts on wellbeing of participants	Qualitative Interviews	Lower quality	N/A (targeted vulnerable group)
14. Ander et al., 2013	Heritage object handling in healthcare settings	UK (England)	Hospital & healthcare settings (London, Oxford, Reading)	Physical & mental health inpatients & outpatients	To assess wellbeing impacts of museum object handling	Qualitative Interviews Observation	Higher quality	N/A
15. Ander et al., 2013A	Heritage object handling in healthcare settings	UK (England)	Hospitals (London, Oxford, Reading)	Mental health & neurological rehab inpatients & outpatients	To assess wellbeing impacts of museum object handling	Qualitative Interviews	Higher quality	N/A

Study	Main evidence theme	Country	Main setting/s	Main populations participating	Main aims of evaluation (wellbeing-related)	Design; main methods	QA	Attempt to account for confounding by SES?
16. Camic et al., 2017	Heritage object handling in healthcare settings	UK (England)	Alzheimer's Society day-centre & within a museum (South East)	People with dementia aged 54-89	To assess wellbeing impacts of museum object handling	Quantitative Quasi-experimental / Before & after	Higher quality	N/A
17. Chatterjee et al., 2009	Heritage object handling in healthcare settings	UK (England)	Hospital (London)	Hospital inpatients	To assess perceived health & wellbeing impacts of museum object handling	Mixed-method Before & after Survey Interviews	Higher quality	No
18. Chatterjee et al., 2009A	Heritage object handling in healthcare settings	UK (England)	Hospital (London)	Hospital inpatients	To assess wellbeing impacts of museum object handling	Quantitative Survey – Before & after	Higher quality	No
19. Lanceley et al., 2012	Heritage object handling in healthcare settings	UK (England)	Hospital (London)	Women facing cancer	To explore therapeutic potential of heritage-object handling in nurse-patient encounters	Qualitative Observation Participant observation	Higher quality	N/A
20. Paddon et al., 2014	Heritage object handling in healthcare settings	UK (England)	Hospital (London)	Hospital inpatients	To determine effects of heritage-in-health intervention on wellbeing.	Mixed-method Before & after (not longitudinal) Interviews	Higher quality	No
21. Smiraglia, 2015	Heritage object handling in healthcare settings	USA	Independent-living retirement communities (Boston metro area)	People living in retirement communities (aged 42-105)	To examine mood changes related to a single session museum outreach object-based reminiscence program	Quantitative (mixed-method but qualitative results reported in full elsewhere) Survey Pre/post-test / Before & after Observation Post-intervention interviews	Higher quality	Yes (for 1 outcome)
22. Solway et al., 2015	Heritage object handling in healthcare settings	UK	Hospital (place not reported))	Older adult inpatients diagnosed with clinical anxiety &/or depression.	To understand psychological & social aspects of object handling in mental health inpatients	Qualitative Observation (recording sessions)	Higher quality	N/A

Study	Main evidence theme	Country	Main setting/s	Main populations participating	Main aims of evaluation (wellbeing-related)	Design; main methods	QA	Attempt to account for confounding by SES?
23. Thomson & Chatterjee, 2016	Heritage object handling in healthcare settings	UK	Hospital & healthcare settings	Older adult with chronic conditions, anxiety & depression; in nursing home	To examine extent museum object-handling enhanced older adult well-being across healthcare settings	Mixed-method Survey – Before & after (& between settings) Observation	Higher quality	No
24. Thomson et al., 2012	Heritage object handling in healthcare settings	UK (England)	Hospital (London)	Adult female inpatients aged 25-85 receiving cancer treatment	To examine effectiveness of heritage object	Quantitative Survey – Before & after With control group (but quasi-experimental/not randomised)	Higher quality	No
25. Thomson et al., 2012A	Heritage object handling in healthcare settings Heritage volunteering	UK (England)	Hospital & healthcare settings (London)	Volunteers delivering heritage object interventions, patients	To assess impact of handling heritage objects on volunteer and patient wellbeing	Mixed-method Survey – Before & after	Higher quality	No (though describes SES of participants)
26. Bryson et al., 2002	Visiting museums, historic houses, other heritage sites Wider social & economic impacts	UK (England)	South West Museums, archives & libraries	Service users, non-service users, stakeholders	To assess impact of archives, libraries and museums in promoting social cohesion, social inclusion, lifelong learning.	Qualitative Interviews Focus groups Social Impact Audit	Lower quality	N/A
27. DC Research, 2015	Visiting museums, historic houses, other heritage sites Wider social & economic impacts	UK	Various historic houses & gardens	Members of the Historic Houses & Gardens Association	To provide evidence on economic, cultural & social of independently owned historic houses & gardens	Mixed-method Interviews Surveys Case studies	Lower quality	No
28. Everett & Barrett, 2011	Visiting museums, historic houses, other heritage sites	Australia (Tasmania)	Museum	Girls & women aged 5 to 80 years	To understand nature of sustained relationships	Qualitative Narrative enquiry Interviews Observation	Lower quality	N/A

Study	Main evidence theme	Country	Main setting/s	Main populations participating	Main aims of evaluation (wellbeing-related)	Design; main methods	QA	Attempt to account for confounding by SES?
					individuals form with a single museum			
29. Fujiwara, 2013	Visiting museums, historic houses, other heritage sites	UK (England)	England wide	Sample of population of England	To assess impacts of museum attendance on self-reported health & wellbeing, & monetary value	Quantitative Wellbeing Valuation Approach (a form of CBA) Routine surveys Observational study	Lower quality	Yes
30. Fujiwara et al., 2014	Visiting museums, historic houses, other heritage sites	UK (England)	England wide	Sample of population of England	To examine the relationship between heritage visits and wellbeing, including across different types of heritage, & distribution of impacts across pop'n groups. To assess monetary value. To identify determinants of heritage participation.	Quantitative Routine surveys Observational study Wellbeing valuation (CBA)	Lower quality	Yes
31. Fujiwara et al., 2014A	Visiting museums, historic houses, other heritage sites	UK	UK wide	Sample population of UK	To examine associations between culture and measures of subjective wellbeing.	Quantitative Wellbeing Valuation Approach (a form of CBA) Observational study	Lower quality	Yes
32. Fujiwara & MacKerran, 2015	Visiting museums, historic houses, other heritage sites	UK	UK wide	Sample population of UK (though potential age and SES bias of smart app sample)	To assess relationship between cultural engagement and momentary wellbeing using UK data from Mappiness smartphone app	Quantitative Data collected via 'Mappiness' smartphone application (a form of GIS GPS data collection – in which participants enter information on their perception of their	Lower quality	Yes (in analysis, & acknowledge potential bias in sampling)

Study	Main evidence theme	Country	Main setting/s	Main populations participating	Main aims of evaluation (wellbeing-related)	Design; main methods	QA	Attempt to account for confounding by SES?
						wellbeing at certain locations) Observational study		
33. Fujiwara et al., 2015	Visiting museums, historic houses, other heritage sites	UK	UK wide	Samples population of UK from BHPS & USS surveys	To examine in greater detail (than Fujiwara et al, 2014A) associations between cultural activities (including heritage visits) & health & education	Quantitative Routine surveys Observational study	Lower quality	Yes
34. Lakey et al, 2017	Visiting museums, historic houses, other heritage sites	UK (England)	England wide	Adults aged ≥ 16 living in private households in England	To explore associations between participation in cultural activities (including visits to museums) & health & wellbeing outcomes	Quantitative Routine survey Observational study Longitudinal (individual-level, linked data)	Lower quality	Yes
35. Leadbetter & O'Connor, 2013	Visiting museums, historic houses, other heritage sites	UK (Scotland)	Scotland wide	Adults	associations between participation in cultural activities (including visits to museums) & self-assessed health and life satisfaction	Quantitative Routine survey Observational study Cross-sectional	Lower quality	Yes
36. Packer, 2008	Visiting museums, historic houses, other heritage sites	Australia	Museum	Adult museum visitors	To explore outcomes that visitors seek & obtain from visit, not related to learning outcomes.	Qualitative Interviews	Lower quality	N/A
37. Aldridge & Dutton, 2009	Visiting museums, historic houses, other heritage sites.	UK	Museums, historic houses, other heritage sites	People aged over 50	To describe activities & assess the impacts of Museum Libraries and Archives on the wellbeing of older people	Mixed-method Survey Interviews Focus groups	Lower quality	No

Study	Main evidence theme	Country	Main setting/s	Main populations participating	Main aims of evaluation (wellbeing-related)	Design; main methods	QA	Attempt to account for confounding by SES?
38. Christidou & Hansen, 2015	Heritage volunteering	Norway, Denmark and Sweden	Museums	Volunteers. All aged >30, most 66-75. 'Vast majority' highly educated.	To identify relationships between volunteering & personal development, lifelong learning, & well-being.	Quantitative Survey	Lower quality	No
39. IWM North et alia., 2017	Heritage volunteering	UK (England)	10 Heritage venues in Greater Manchester	Volunteers. Long-term unemployed or low level mental wellbeing and/or social isolation.	To assess impacts of targeted volunteering, training and placement programme on wellbeing, & social & economic isolation	Mixed-method SROI (inc CBA) Surveys including one longitudinal (individual-level, linked data) survey (n=40) Interviews Focus groups Observation	Higher quality	No (though targeted at vulnerable)
40. Morris Hargreaves McIntyre, 2015	Heritage volunteering	UK & other countries	War heritage sites in UK, Europe, North America, New Zealand, Far East	War veterans, relatives, carers, families, school children, local communities	To assess impact of Veterans Reunited programme on learning for all ages, communities and partnerships.	Mixed-method Surveys Interviews Focus group Case studies	Lower quality	No
41. Manchester Museum et alia, 2010	Heritage volunteering	UK (England)	Museums	People who were socially, culturally & economically excluded (88% unemployed/long-term unemployed, 40% with disability)	To assess impacts on the volunteers & the museums role as an inclusive community facility	Mixed-method Surveys – before & after Interviews Focus groups Participant observation	Higher quality	No (though targeted excluded)
42. Rosemberg et al., 2011	Heritage volunteering	UK (Britain)	Various HLF projects across England, Scotland & Wales	Volunteers in HLF funded projects	To examine findings from third and final year of national research on social impacts.	Mixed-method Observational study Repeat cross-sectional survey Interviews Observation	Lower quality	Yes

Study	Main evidence theme	Country	Main setting/s	Main populations participating	Main aims of evaluation (wellbeing-related)	Design; main methods	QA	Attempt to account for confounding by SES?
					To examine impact of demographics on outcomes.			
43. Centre for Public Innovation, 2015	Heritage volunteering	UK	HLF funded Young Roots projects across UK	Young project participants aged 13-25. Staff.	To demonstrate impact on youth organisations, heritage organisations & young people. To identify wider social impacts	Mixed-method Documentary analysis Survey Interviews Focus groups Observation	Lower quality	Partial (in sampling)
44. Lynch, 2011	Social engagement/inclusion projects	UK (all 4 nations)	Museums & galleries	Museum staff and community partners	To assess nature and effectiveness of the engagement practices of 12 museums and galleries.	Qualitative Interviews Focus groups 'Participatory theatre techniques'	Higher quality	No
45. Clennon & Boehm, 2014	Social engagement/inclusion projects	UK	Youth clubs/music groups	Young people	To examine potential wellbeing outcomes of a heritage music project.	Qualitative Participant observation	Higher quality	N/A
46. Newman & McClean, 2004 47. Newman et al., 2005 48. Newman & McClean, 2006	Social engagement/inclusion projects	UK (England, Scotland)	Local Authority museums (Newcastle; Glasgow)	People visiting museum exhibitions in Newcastle-upon-Tyne and Glasgow. Participants, organisers and curators of community development museum projects in Newcastle-upon-Tyne and Glasgow. In Newman and Mclean (2006)	*2004*: to present results of project that aimed to determine the ability of museums to ameliorate the effects of social exclusion. *2005*: to determine role of museums in combating social exclusion through facilitating active citizenship. *2006*: to determine social exclusion of visitors & community development participants. To use	Mixed-method Surveys Interviews Focus groups	Lower quality	No (though targeted socially excluded)

Study	Main evidence theme	Country	Main setting/s	Main populations participating	Main aims of evaluation (wellbeing-related)	Design; main methods	QA	Attempt to account for confounding by SES?
				national and local policy makers and museum practitioners.	that experience to construct individual & social identities			
49. Hooper-Greeenhill et al., 2014	Social engagement/inclusion projects	UK (England, Scotland, Wales)	Large local authority-funded museums & galleries	Museum directors, project leaders, & some projects partners, project participants	to identify social impact of museums & galleries – with focus on inequalities & social inclusion	Mixed-method Interviews Documentary analysis (including of previous evaluations conducted by museums)	Lower quality	No
50. ERS Research, 2010	Social engagement/inclusion projects	UK (England)	Regional Museum Hubs across regions of England	Participants in various projects, including some 'under represented groups' e.g. older, BME, disabled	To capture social outcomes of engagement projects, & CBA of projects.	Mixed-method Case studies SROI	Lower quality	Partial (attempted to capture a representative sample of target groups)
51. Hooper-Greenhill et al., 2007	Social engagement/inclusion projects	UK (England)	Museums, schools	School children, teachers, community group leaders, community members	To assess impacts on partnership working across museums, schools, & communities, & impacts on learning & development, social inclusion & cohesion.	Mixed-method Surveys Focus groups Case studies	Lower quality	Partial (in sampling)
52. Dodd et al., 2002	Social engagement/inclusion projects	UK (Scotland)	Communities in Glasgow	Project participants, resource users, staff	To assess impacts of Open Museums - taking collections into communities, object handling & different modes of delivery	Mixed-method Documentary analysis Interviews Case studies (individuals)	Lower quality	No
53. Baggott et al., 2013	Activities in historic landscapes & parks	UK	Public parks of heritage value	Public park users	To assess impact of HLF Parks for People programme funding	Mixed-method Surveys Interviews Case studies	Lower quality	N/A

Study	Main evidence theme	Country	Main setting/s	Main populations participating	Main aims of evaluation (wellbeing-related)	Design; main methods	QA	Attempt to account for confounding by SES?
54. Barton et al., 2009	Activities in historic landscapes & parks	UK (England)	Four National Trust sites of natural and heritage value in the East of England	Visitors to sites. Most aged 51-70 (57.6%) or 31-50 (25.0%). 14.4% over age of 71; 2.3% aged 19-30.	To evaluate changes in self-esteem and mood after walking in four different National Trust sites	Quantitative Before & after Repeat cross-sectional	Higher quality	No
55. Research Box et alia., 2009	Activities in historic landscapes & parks	UK (England)	Eight 'character areas' in seven regions & mix of landscape status (enhancing, diverging, maintained, neglected)	Visitors & people living or working close to 'character areas' in seven regions. Mix of SES, gender and age groups	To provide evidence of 'cultural services' & experiential qualities provided by landscapes.	Qualitative Focus groups Creativity sessions Interviews	Lower quality	N/A
56. Research Box et alia., 2011	Activities in historic landscapes & parks	UK (England)	Six 'character areas' (additional to those in Research Box et alia, 2009)	Visitors & people living or working close to 'character areas' in seven regions. Mix of SES, gender and age groups	Building on research Box et alia (2009): to 'map' 'cultural services'/features, to see if wellbeing outcomes relate to particular features.	Qualitative Focus groups Interviews Creativity sessions Photovoice Participant diaries	Lower quality	N/A
57. Johnston & Marwood, 2017	Community archaeology or heritage research	UK (England)	Community heritage sites, e.g. listed building, church.	Project participants from homeless hostel for young, a primary school (ages 10-11), a local history group (middle-aged to retired).	To assess wellbeing-related impacts of 'Action heritage' /community heritage project through co-produced research	Qualitative Co-produced research (form of CBPR) Focus groups Descriptive case studies	Higher quality	N/A

Study	Main evidence theme	Country	Main setting/s	Main populations participating	Main aims of evaluation (wellbeing-related)	Design; main methods	QA	Attempt to account for confounding by SES?
58. Sayer, 2015	Community archaeology or heritage research	UK and Non-UK (specific countries not specified)	Excavation sites	Community members, & students	To assess impacts of archaeological excavation on well-being (& compare impacts across groups)	Quantitative Case studies Before & after measurement 2 wellbeing scales	Higher quality	No
59. McMillan, 2013	Community archaeology or heritage research	UK (England)	Archaeological excavation site in rural area	People participating in a mental health recovery project	To describe an archaeology & mental health recovery project to support development of community, & individual health & wellbeing	Descriptive case study	Lowest quality	N/A
60. Neal & Roskams, 2013	Community archaeology or heritage research	UK (England)	Archaeological excavation site (York).	Volunteers from local community (students, metal detecting club members, volunteers, local residents, homeless hostel residents, school children).	To describe success & limitations of community archaeology project	Qualitative Descriptive case study Survey Focus groups	Lower quality	N/A
61. Nevell, 2015	Community archaeology or heritage research	UK (England)	Archaeological excavation sites (4 historic sites in deprived areas across Manchester)	Local residents, schoolchildren, teachers, members of community groups, professional archaeologists	To describe impacts on sense of place, health & wellbeing.	Mixed-method Survey Interviews Focus groups	Lower quality	No (though targeted at most deprived areas)
62. Kiddey, 2017	Community archaeology or heritage research	UK (England)	Various locations used by homeless people across two cities	Homeless people, students, heritage professionals, general public.	To explore perspectives of contemporary homeless people and impacts of project on	Qualitative Ethnographic	Lower quality	N/A

Study	Main evidence theme	Country	Main setting/s	Main populations participating	Main aims of evaluation (wellbeing-related)	Design; main methods	QA	Attempt to account for confounding by SES?
			(Bristol, York) including squats, homeless centre,		empowerment and wellbeing			
63. AMION Consulting et alia., 2010	Living in historic places	UK (England)	Heritage-led regeneration sites in urban or rural areas across England	Individuals in case studies & associated local residents, workers, visitors & businesses.	To assess social, environmental & economic impacts of heritage-led regeneration.	Mixed-method. Survey Documentary analysis Economic impact analysis Case studies	Lower quality	No
64. Andrews, 2014	Living in historic places	UK (Wales)	2 case studies included: i. The Egypt Centre, Swansea (; ii. Caernarfon's castle and Segontium (site of Roman fort)	i. Child & adult volunteers (reports high levels of 'vulnerable' participants, e.g. people with social & mental health issues) ii. Local residents	To describe social impacts of case study projects targeted at socially and other disadvantaged groups	Descriptive case studies	Lowest quality	No (though high levels of vulnerable participants)
65. Bradley et al., 2009	Living in historic places	UK (England)	Various. Observational study on living in or near heritage places/features	Adults (16-54 years old) & teenagers (13-14 years old)	To explore the relationships between historic built environments & sense of place, & social capital.	Quantitative Observational study Surveys – cross sectional GIS analysis	Lower quality	Yes
66. Bradley et al., 2011	Living in historic places	UK (England)	Various. Observational study on living in or near heritage places/features	Adults (16-54 years old) & teenagers (13-14 years old)	To explore the relationships between historic built environments & sense of place, & social capital.	Quantitative Observational study Survey	Lower quality	Yes

Study	Main evidence theme	Country	Main setting/s	Main populations participating	Main aims of evaluation (wellbeing-related)	Design; main methods	QA	Attempt to account for confounding by SES?
67. BritainThinks, 2015	Living in historic places	UK (England, Wales, Scotland, N.I.)	12 areas across UK	Residents & project stakeholders	To understand: cumulative impact of HLF investment from a public perspective; public perception of benefits.	Mixed-method Survey Interviews Focus groups	Lower quality	Yes
68. Pinkster & Boterman, 2017	Living in historic places	Netherlands	Amsterdam Canal District	Long-term upper-middle-class residents aged 49-81	Explores discontent of residents and powerlessness of residents in light of tourism driven changes	Qualitative Interviews	Lower quality	N/A
69. Labadi, 2011	Living in historic places	UK (England)	Heritage-based regeneration sites (Liverpool Rope Walks, The Lowry Manchester)	People living in or near to regeneration sites in socio-economically disadvantaged areas	To assess the socio-economic impacts of heritage-based regeneration projects on local communities	Descriptive case-studies (2 from UK included)	Lowest quality	No (though focussed on disadvantaged)
70. Applejuice & HLF, 2008	Assessments of wider social & economic impacts of historic places and assets	UK	Various settings across the UK (100 projects)	Participants in HLF funded projects and activities	To assess the social impacts of (100) HLF funded projects	Mixed-method Documentary analysis Interviews Focus groups Case studies	Lower quality	No
71. ECORYS, 2014	Assessments of wider social & economic impacts of historic places and assets	UK (England)	Cathedrals in England	Users, volunteers, wider community	To assess social and economic impacts of Anglican Cathedrals To update 2004 assessment	Mixed-method Survey Case studies Economic impact assessment	Lower quality	No
72. HLF, 2009	Assessments of wider social & economic impacts of historic places and assets	UK	55 Locations across the UK.	Adults (aged 16 +) living within a pre-set walking distance of the	To evaluate benefits to people living or working near to HLF projects.	Mixed-method Surveys Interviews	Lower quality	Yes

Study	Main evidence theme	Country	Main setting/s	Main populations participating	Main aims of evaluation (wellbeing-related)	Design; main methods	QA	Attempt to account for confounding by SES?
				selected HLF projects	To examine if local people feel quality of surroundings and/or life has been improved			
73. Regeneris Consulting, 2017	Assessments of wider social & economic impacts of historic places and assets	UK (England)	National Museums (in Liverpool)	Visitors, staff, volunteers	To assess local, national, international impacts of museums on society and economy	Mixed-method Social & economic impact assessment. Methods unclear – refers to a technical appendix that could not be located.	Lower quality	No (did look at use by lower SES groups)
74. Scott, 2006	Assessments of wider social & economic impacts of historic places and assets	Australia	Museums	General public. Professionals working in, and with museums	To explore value and impact of museums	Mixed-method Delphi	Lower quality	No
75. Travers, 2006	Assessments of wider social & economic impacts of historic places and assets	UK (Britain)	Museums & galleries (England, Scotland, Wales)	Survey of 118 museums & galleries, unclear who completed it. Various participants in case studies including children, refugees and asylum seekers, children, people in low SES areas.	To assess social & economic impacts of museums & galleries	Mixed-method Social Impact Assessment Case studies	Lower quality	No

Countries, settings, and participants

All the included studies were set in high-income OECD **countries**, and most were conducted in the UK (67 of 75). The majority of the UK studies (41) were in England, and the remainder were either UK wide, combinations of UK nations, or individual UK nations (Scotland, Wales, Northern Ireland; 'Britain' not including the latter). The majority of the studies in England were set in areas in the South East region. Three studies were based on interventions in Australia, one in the U.S., one in the Netherlands, and two across a mix of European countries.

A wide range of **settings** included museums, archives, cathedrals, historic houses, residential areas in or close to heritage places and features, heritage landscapes and features within landscapes, hospitals, healthcare settings, schools, and community archaeological sites.

Population groups participating in the interventions, or using heritage resources, were wide ranging and included members of the general public and targeted public groups (children, young people, old people, people on low and fixed incomes, unemployed and long-term unemployed people, people with physical and mental health issues and limiting long-term illnesses and disabilities), volunteers, institution staff, and heritage sector professionals.

Study designs, methods, and timing of measurement

Thirty-six of the studies used **mixed-method** approaches/designs (combinations of quantitative and qualitative methods); this is a common approach to assessing complex social interventions in community settings and complex social determinants of health and/or wellbeing. Eighteen studies used solely **qualitative** designs, including interviews, focus groups, observation, participant observation and ethnographic methods, and seventeen used solely **quantitative** designs based on surveys (implemented, for example, through questionnaires, evaluation forms, or novel tools such as quantitative 'wellbeing umbrellas' in Dodd & Jones, 2014). Ten of the quantitative studies were observational designs. Four reports only presented descriptive **case studies**.

Of the quantitative and mixed-method studies, two used linked individual-level data (i.e. **longitudinal**) and fourteen used **before and after data** (also known as pre/post-test, or pre/post intervention measurement). Study designs based on longitudinal or before and after measurements are inherently stronger (in terms of their ability to establish causal relationships) than single time-point cross sectional studies (which are only able to identify

and describe associations). Other methodological approaches included Social Return On Investment (SROI), Wellbeing Valuation (WVA - a form of Cost Benefit Analysis/CBA), Social Impact Assessment (SIA) and Social and Economic Impact Assessments (SEIA). Many of these methodologies, and within them various procedures, methods, and tools, were used in combinations.

Evidence themes

Evidence was organised/categorised into nine evidence themes (Table 3).

Table 3. Evidence themes

Evidence theme	Number of studies	Studies
1. Heritage-based cultural activities in museums	12	Balshaw, Undated Dodd & Jones, 2014 Flow Associates, 2017 Froggett et al, 2011 Goddard & Rasbery, Undated Morse et al., 2015 Neal & Coe, 2013 Neal, 2012 Ridley, 2014 Thomson et al, 2018 Todd et al., 2017 Wilson & Whelan, 2014
2. Heritage object handling in hospital and healthcare and related settings	13	Ander et al., 2013 Ander et al., 2013A Camic et al., 2017 Chatterjee et al., 2009 Chatterjee et al., 2009A Lanceley et al., 2012 Paddon et al., 2014 Smiraglia, 2015 Solway et al., 2015 Thomson & Chatterjee, 2016 Thomson et al., 2012 Thomson et al., 2012A Thomson et al., 2012B
3. Visiting museums, historic houses, other heritage sites	12	Aldridge & Dutton, 2009 Bryson et al., 2002 DC Research, 2015 Everett & Barrett, 2011 Fujiwara, 2013 Fujiwara et al., 2014 Fujiwara et al., 2014A Fujiwara et al., 2015 Fujiwara & MacKerran, 2015 Lakey et al, 2017 Leadbetter & O'Connor, 2013 Packer, 2008
4. Heritage volunteering	6	Centre for Public Innovation, 2015 Christidou & Hansen, 2015

		IWM North et alia., 2017 Manchester Museum et alia, 2010 Morris Hargreaves McIntyre, 2015 Rosemberg et al., 2011
5. Social engagement and inclusion projects	9	Clennon and Boehm, 2014 ERS Research, 2010 Hooper-Greeenhill et al., 2014 Hooper-Greenhill et al., 2007 Dodd et al. 2002 Lynch, 2011 Newman & McClean, 2004 Newman & McClean, 2006 Newman et al., 2005
6. Activities in historic landscapes & parks	4	Barton et al., 2009 Baggott et al., 2013 Research Box et alia., 2009 Research Box et alia., 2011
7. Community archaeology or community heritage research	6	Johnston and Marwood, 2017 Kiddey, 2017 McMillan, 2013 Neal and Roskams, 2013 Nevell, 2015 Sayer, 2015
8. Living in historic places	7	AMION Consulting et alia., 2010 Andrews, 2014 Bradley et al., 2009 Bradley et al., 2011 BritainThinks, 2015 Labadi, 2011 Pinkster & Boterman, 2017
9. Studies of wider social & economic impacts of historic places and assets	6	Applejuice & HLF, 2008 ECORYS, 2014 HLF, 2009 Regeneris Consulting, 2017 Scott, 2006 Travers, 2006

Findings

Review question1: What are the effects (beneficial and adverse) of historic places and assets on community wellbeing?

> **RQ1a**. Is there evidence of wellbeing inequalities resulting from the differential distribution of effects across population sub-groups, including age, socioeconomic status, gender, ethnicity and disability status?

Findings are grouped into evidence themes (1 to 9). Tables 4 to 11 provide overviews of the study findings, including the main wellbeing domains and health and wellbeing-related outcomes that were affected, whether impacts on participants and/or their wider communities were reported, and whether any adverse impacts were observed. In the text accompanying each table (by theme), evidence from higher quality studies is reported first and in greater detail.

Findings on both beneficial and adverse impacts identified within the included studies are reported. Where 'significant' effects are referred to in relation to quantitative study findings (or the quantitative components of mixed-method studies) they were all statistically significant ($p \leq 0.05$). The tables also only include statistically significant findings from quantitative studies (or the quantitative components of mixed-method studies). Logistical constraints (time and resources) and a desire to make reporting as concise and accessible as possible, despite the inclusion of a large number of studies, prevent us from reporting non-significant effects. Over 900 statistically significant or qualitatively observed individual outcomes were reported across the 75 included studies.

1. **Heritage-based cultural activities in museums** (table 4)

Twelve included studies examined potential wellbeing-related impacts of heritage-based cultural activities in museums, that included heritage inspired arts and crafts, gardening in historic facilities, and heritage object handling interventions. Seven of the evaluations were rated as higher methodological quality. Five higher quality mixed-method evaluations (Flow Associates, 2017; Morse et al., 2015; Dodd and Jones, 2014; Neal, 2012; Neal and Coe, 2013) identified a range of positive impacts of participants and their wider communities. Each of these studies used inherently stronger methodological designs involving before- and after-intervention measurement, compared to lower quality single time-point (only) measurements used in the other studies. Thomson et al (2018), for example, used a Museum Wellbeing Measure for Older Adults (MWM-OA) tool to detect self-reported

changes in six emotions ('absorbed', 'active', 'cheerful', 'enlightened', 'encouraged' and 'inspired') at the start, middle, and end of a ten-week heritage social prescription programme of participation in approximately two hour sessions involving behind-the-scenes tours, object handling and discussion, and arts activities inspired by the heritage exhibits. Participants, carers, museum staff, and researchers also kept diaries and participated in in-depth interviews at the end of the programme. They found evidence of significant post-intervention improvements to all six emotions ('absorbed', 'active', 'cheerful', 'enlightened', 'encouraged' and 'inspired'). Cheerful' was found to be the highest rated emotion before and after the sessions, but 'absorbed' and 'enlightened' increased the most (after the sessions/intervention). Morse et al. (2015) found evidence supporting the hypothesis that confidence, sociability and wellbeing would improve for addiction recovery and mental health service users' groups over the sessions. Dodd and Jones (2014) found evidence of increased or improved emotions (active, enthusiastic, excited, happy, and inspired) after creative museum outreach sessions. They also report improvements to participants social relationships, and increased knowledge about healthy and harmful lifestyle, for example, the importance of physical & mental activity, and the harms of smoking. Flow associates (2017) provide evidence on potential benefits to participants and their wider communities, including improvements to social relations, the physical environment, and participant's sense of empowerment, sense of belonging, self-worth, and confidence.

One higher quality qualitative study (Todd et al., 2017) provides evidence of beneficial impacts on a wide range of wellbeing-related determinants and outcomes from a museum-based programme that targeted socially isolated older people. Benefits included increased levels of confidence, communication, social interaction, social engagement, stimulation, learning, sense of worth, sense of privilege (to have access to expert's attention, time and knowledge, and to museum assets) and sense of place. They identified four processes ('components') by which the physical environment of museums and the programme provided opportunities for wellbeing and social inclusion ('interacting social context, museum as a positive enabler, individual journey and relational processes'). One other higher quality qualitative study (Froggett et al, 2011) investigated a series of *Who Cares?* interventions targeted at disadvantaged groups in six museums and galleries in the North West of England (located in Carlisle, Preston, Bolton, Whitworth, and Manchester). Beneficial outcomes identified included increased trust, sense of ownership, pride, learning, confidence, and recovery/rehabilitation.

One lower quality qualitative study (Ridley, 2014) also provides evidence of beneficial impacts of a Museum Mentors artists programme that focussed on participants strengths (an

‘asset-based’ approach) rather than their ‘illnesses’. They provide evidence, from a small sample of (nine) participants, that participation led to increased social connectivity and sense of inclusion, increased sense of safety/security and feeling supported, respite, sense of pride and achievement, inspiration, creativity and self-expression, learning and skills, and enhanced self-esteem, confidence, happiness, and motivation; and reduced anxiety and social isolation.

Two lower quality mixed-method studies provide further evidence of benefits of participation in cultural activity programmes and projects in museums (Neal & Coe, 2013; Wilson & Whelan, 2014), with potential benefits to participants and their wider communities, with impacts on individual health and wellbeing, and social relationships.

Two descriptive case-studies (lowest methodological quality) also describe potential beneficial impacts of heritage-based cultural activities in museums, for example, improvements to skills, confidence, sense of place and belonging, sense of achievement, pride, and self-esteem. In addition, they describe interventions that provided conditions for respite and relaxation which helped to reduce stress and anxiety.

Two of the studies (rated as higher methodological quality) also provide evidence of potential adverse impacts on some participants, in addition to beneficial impacts for other participants outlined above (Froggett et al, 2011; Neal, 2012). Froggett et al’s (2011) qualitative study reports that some participants with mental health issues experienced anxiety or felt overwhelmed by activities. They also report some issues with partnership working between health and heritage sector workers, and adverse emotional costs to museum staff, particularly if they had insufficient training and support when working with participants who had challenging physical & mental health issues. Neal’s (2012) mixed-method study identifies adverse impacts for some participants who were acutely ill and found some settings (e.g. war-related exhibits) aggravated their psychosis/paranoia. She also found that some participants found the settings distracting, and that other museum users were sometimes disrupted by the interventions.

Table 4. Heritage-based cultural activities in museums

Publication	Wellbeing domains	Main outcomes ('significant' = $p \leq 0.05$)	On participants[i]	On wider community	Adverse effects[i]	Design	QA
Thomson et al, 2018	Individual wellbeing	Significant improvements to emotions: 'absorbed', 'active', 'cheerful', 'enlightened', 'encouraged' & 'inspired'.	√	-	-	M-M	**Higher quality**
Flow Associates, 2017	Individual wellbeing Community wellbeing Social relationships Social determinants of health	Improved sense of empowerment, social connectivity, physical environment, sense of belonging, sense of worth, confidence.	√	√	-	M-M	**Higher quality**
Morse et al., 2015	Individual wellbeing Social relationships	Increased confidence, social interaction, personal wellbeing, pride, sense of achievement, sense of identity, learning & skills.	√	-	-	M-M	**Higher quality**
Dodd & Jones, 2014	Individual wellbeing Social relationships	Significant increases to emotions: active, enthusiastic, excited, happy, inspired. Increased social connectivity & cohesion. Increased knowledge of healthy and harmful lifestyle (e.g. physical & mental activity, smoking).	√	-	-	M-M	**Higher quality**
Neal, 2012	Individual wellbeing Individual health Social relationships	Significant improvement in WEMWBS. Increased confidence, enjoyment; being absorbed in the activities; relief from pain; being distracted from problems; calming & relaxing/therapeutic effects; providing structure to life; feeling better; confidence; ability	√	-	√	M-M	**Higher quality**

Publication	Wellbeing domains	Main outcomes ('significant' = p ≤ 0.05)	On participants[i]	On wider community	Adverse effects[i]	Design	QA
		to accept praise; self-motivation; awareness; ability to deal with problems; having something to live for; making plans for the future; engagement (reduced isolation); group support; fun; independence; confidence in ability; sense of achievement; increased skills, sense of satisfaction & pleasure, ownership. Increased sense of privilege, observational power/attention to detail, sense of attachment. Some participants who were acutely ill found the setting aggravated their psychosis (increased paranoia). Some found the setting distracting. Some disturbance to other museum users.					
Froggett et al, 2011	Individual wellbeing Social relationships	Increased confidence, trust, social connectivity & inclusion, sense of ownership, sense of pride, learning, development & recovery/rehabilitation. Some participants experienced anxiety, & some felt overwhelmed by activities. Conflicts within partnership working. Some emotional costs for heritage staff working with people with challenging physical & mental health issues,	√	-	√	Qual	**Higher quality**

Publication	Wellbeing domains	Main outcomes ('significant' = p ≤ 0.05)	On participants[i]	On wider community	Adverse effects[i]	Design	QA
		particularly where resource & support needs were beyond the programme resources.					
Todd et al., 2017	Individual wellbeing Social relationships Individual health	Increased social connectivity/reduced isolation, confidence, sense of worth, learning, stimulation, sense of privilege, sense of place & connection to own past; reduced anxiety. Increased physical activity/exercise.	√	**-**	-	Qual	**Higher quality**
Neal & Coe, 2013	Individual wellbeing Social relationships	Increased or improved knowledge & skills (e.g. problem solving, team working), sense of trust empowerment (feeling trusted to undertake important tasks), sense of belonging, ownership & memory.	√	√	√	M-M	Lower quality
Wilson & Whelan, 2014	Individual wellbeing Individual health	Increased personal wellbeing, increased professional development, increased interest & knowledge (in dementia care), increased empathy, reduced stigma, increased compassion & openness, reduced fear of dementia, increased confidence. More personalised care.	√	√	-	M-M	Lower quality
Ridley, 2014	Individual wellbeing	Increased sense of inclusion, social connectivity, feeling safe/secure & supported, respite, sense of achievement & pride; inspiration, learning, skills & creativity/self-expression; self-esteem, confidence, happiness, motivation. Reduced anxiety.	√	**-**	-	Qual	Lower quality

Publication	Wellbeing domains	Main outcomes ('significant' = p ≤ 0.05)	On participants[i]	On wider community	Adverse effects[i]	Design	QA
Balshaw, Undated	Individual wellbeing Community wellbeing Social relationships	Increased sense of place, social connectivity & empathy, sense of belonging	√	√	-	DC-S	Lowest quality
Goddard & Rasbery, Undated	Individual wellbeing	Increased respite/'peace', relaxation & reduced stress. Increased learning & skills, confidence, enthusiasm, sense of place, sense of belonging, sense of achievement, pride, self-esteem.	√	-	-	DC-S	Lowest quality

2. **Heritage object handling in hospital and healthcare and related settings (including residential and independent living facilities for older people)** (Table 5)

Thirteen studies evaluated the health and wellbeing-related impacts of heritage object handling sessions delivered in hospital or healthcare settings. All of the evaluations were rated as higher methodological quality. All of the studies found beneficial impacts on participants and/or volunteers delivering the interventions.

Two of the before and after studies used comparator groups and were therefore the methodologically strongest of these higher quality studies (Thomson et al., 2012; Thomson et al., 2012B). In the experimental group(s), the participants handled and discussed objects (tactile condition) and in the comparison group(s) participants looked at pictures and discussed objects (visual condition). Thomson et al. (2012) evaluated the effectiveness of object handling sessions for adult female inpatients receiving cancer treatment at a hospital in London. Post-intervention levels of positive emotion, happiness, and well-being, measured using the Positive Affect Negative Affect Scale (PANAS) and Visual Analogue Scale (VAS), increased significantly. Thomson et al. (2012B) found significant post-intervention increases in indexes of psychological wellbeing (PANAS) and subjective wellbeing and happiness (VAS) for both the experimental and comparison groups; the increases were greater in the

experimental (tactile condition) group. Despite the relative strength of the design, the authors reported issues with limited number in the comparison group as healthcare staff perceived the experimental group as being more beneficial to patients (the staff gave or denied permission for participation). The participants were sampled/involved purposively (also known as convenience sampling). In a non-controlled quantitative study, Camic et al (2017) measured wellbeing outcomes using the Canterbury Wellbeing Scores visual (analogue–style) questionnaire (five measures: happy, well, interested, confident, and optimistic) immediately before and after object handling sessions. Participants (aged 54-89) with early to moderate-stage of dementia had significantly increased levels of overall wellbeing after the sessions. Participants with early-stage dementia showed larger increases than those with later/moderate-stage dementia.

In a higher quality mixed-method study, Chatterjee et al. (2009A) found that patients showed an average increase on the VAS for life satisfaction of 4.77 percent and health satisfaction of 7.62 percent after the object handling session. Two main themes emerged from the qualitative data: personal / reminiscence (with two sub themes of nostalgia and meaning making), and impersonal / educational (with five sub-themes of tactile, visual, museological, learning, and imaginative/creative). In a similar study, that also assessed impacts on medical student volunteers delivering the object handling sessions in a large London hospital, Chatterjee et al. (2009) found beneficial impacts on the wellbeing of participants/patients and the volunteers. Patients perceptions of their health status and overall wellbeing increased significantly (VAS scores), and they reported qualitative improvements to general interest and enjoyment of the object handling session, suppression of boredom, and appreciation of the activities. The student volunteers gained improvements in their communication skills (seen as an important factor in the success of the intervention), experience of interaction with patients in a ward setting, understanding of wholistic approaches to patient care/wellbeing, and a range of research skills and experience. Improvements to medical student training may help to provide additional benefits to wider communities including patients in hospitals and primary care settings. In another study Thomson and Chatterjee (2016) conducted a before and after evaluation in acute and elderly care, residential, and psychiatric settings. They found evidence of significant increases to (PANAS) Positive affect and wellness (acute, elderly, and residential patients), increased levels of happiness, and reduced negative affect (psychiatric patients) following the intervention. There was also qualitative evidence of improvements to social interaction, learning, and confidence. In another higher quality mixed-method study by Smiraglia (2015), post-intervention mood scores were found to be significantly higher than pre-program scores for participants living in retirement and independent-living communities in Boston, USA. This finding was

supported by the qualitative data during and after the intervention/programme. Paddon et al's (2014) higher methodological quality mixed-method study also found significant beneficial effects on patient wellbeing and happiness post-intervention, based on PANAS & VAS scores, and qualitative evidence revealed opportunities for participant 'meaning making'.

Four qualitative studies rated as higher methodological quality also report evidence of beneficial impacts on patient participants in object handling sessions that are consistent with the beneficial impacts found in the quantitative and mixed-method studies (Ander et al., 2013; Ander et al., 2013A; Lanceley et al., 2012; Solway et al., 2015). The studies were conducted in hospitals, healthcare facilities and care homes in London and the South East of England. Participants included a range of physical, mental health and rehabilitation inpatients and outpatients. They identified a wide range of positive impacts on individual wellbeing-related outcomes that included improvements to positive emotions, vitality, communication, sense of identity, learning, energy levels, social skills, enjoyment, and decreased levels negative emotions including anxiety.

Table 5. Heritage object handling in healthcare settings

Publication	Wellbeing domains	Main outcomes ('significant' = p ≤ 0.05)	On participants[i]	On wider community	Adverse effects[i]	Design	QA
Camic et al., 2017	Individual wellbeing	Increased wellbeing (based on measures: happy, well, interested, confident, optimistic)	√	-	-	Quant	**Higher quality**
Smiraglia, 2015	Individual wellbeing	Significant improvements to mood scores (also supported by qualitative evidence).	√	-	-	Quant	**Higher quality**
Thomson et al., 2012	Individual wellbeing	Significant increases to positive emotion, happiness, well-being.	√	-	-	Quant	**Higher quality**
Thomson et al., 2012B	Individual wellbeing	Significant increases in psychological wellbeing (PANAS) & subjective wellbeing & happiness (VAS).	√	-	-	Quant	**Higher quality**

Publication	Wellbeing domains	Main outcomes ('significant' = p ≤ 0.05)	On participants[i]	On wider community	Adverse effects[i]	Design	QA
Chatterjee et al., 2009A	Individual wellbeing	Increased life & health satisfaction. Qualitative themes identified: personal/ reminiscence (with two sub themes of nostalgia & meaning making); & impersonal/ educational (with five sub-themes of tactile, visual, museological; learning, & imaginative/creative).	√	-	-	M-M	**Higher quality**
Paddon et al., 2014	Individual wellbeing	Beneficial & therapeutic effects on patient wellbeing & happiness. Quantitative: Increases across the three positive emotion scales (positive PANAS & VAS wellness & happiness). Qualitative: opportunities for meaning making.	√	-	-	M-M	**Higher quality**
Thomson & Chatterjee, 2016	Individual wellbeing	Increased social interaction, learning, confidence. Significant increase to (PANAS) Positive affect and wellness (acute, elderly, residential patients). Increased happiness; reduced negative affect (psychiatric patients).	√	-	-	M-M	**Higher quality**
Thomson et al., 2012A	Individual wellbeing	Volunteers: increased professional development (reflexivity), confidence, communication skills. Patients: increased confidence, creativity, learning, respite, happiness.	√	-	-	M-M	**Higher quality**
Chatterjee et al., 2009	Heritage object handling in	Individual wellbeing, community wellbeing (from improvements to	√	√	-	M-M	**Higher quality**

Publication	Wellbeing domains	Main outcomes ('significant' = p ≤ 0.05)	On participants[i]	On wider community	Adverse effects[i]	Design	QA
	healthcare settings	medical student training/experience) Patients: perceptions of health status & overall wellbeing increased. Qualitative themes identified: enjoyment of the object handling session; boredom suppression/appreciation of enrichment activity. Students (delivering intervention): gained communication skills; patient interaction experience; experience of being on a hospital ward; the 'whole person' approach to patients; a range of research skills.					
Ander et al., 2013	Individual wellbeing	Improvements to wellbeing: new perspectives; positive feelings; learning; energy, alertness; positive mood; sense of identity; something different, inspiring; calming, relieves anxiety; passing time; social experience; tactile experience.	√	-	-	Qual	**Higher quality**
Ander et al., 2013A	Individual wellbeing	increased positive emotion, decreasing negative emotion, enhanced vitality, tactile stimulation, improved social skills & sense of identity, development of novel perspectives & thoughts & acquisition of new knowledge.	√	-	-	Qual	**Higher quality**

Publication	Wellbeing domains	Main outcomes ('significant' = p ≤ 0.05)	On participants[i]	On wider community	Adverse effects[i]	Design	QA
Lanceley et al., 2012	Individual wellbeing	Increased nurse/patient communication, disclosure, sense of 'active wellbeing'.	√	-	-	Qual	**Higher quality**
Solway et al., 2015	Individual wellbeing	Qualitative themes identified: Responding to object-focuses questions; learning about objects, learning from each other; enjoyment, enrichment through touch & sense of privilege; memories, personal association & identity; imagination & storytelling.	√	-	-	Qual	**Higher quality**

3. Visiting museums, historic houses, other heritage sites (Table 6)

Twelve included studies evaluated the wellbeing-related impacts of visiting museums, historic houses, and other heritage sites. All of the studies were rated as of lower methodological quality. Seven used observational/non-intervention study designs (Fujiwara, 2013; Fujiwara et al., 2014; Fujiwara et al., 2014A; Fujiwara & MacKerran, 2015; Fujiwara et al., 2015; Lakey et al, 2017; Leadbetter & O'Connor, 2013) that are typically of lower methodological quality when compared to quasi-experimental (stronger) and experimental (strongest) study designs. One of the observation studies (Lakey et al., 2017) was a longitudinal observational design (using individual-level, linked data), and was of higher methodological quality compared to the other repeat cross-sectional and single time-point cross-sectional observational studies (the lowest quality of the observational studies). Three observational studies led by Fujiwara found evidence of significant associations between museum visiting (or living in proximity to heritage places/features) and higher levels of happiness and self-reported health (Fujiwara, 2013), life satisfaction (Fujiwara et al., 2014), and higher likelihood of reporting being in good health (Fujiwara et al., 2015). Each of the studies controlled for the potential effects of socioeconomic status. Another observational study by Fujiwara & MacKerran, (2015) found significant associations between proximity to museums (based on smartphone GPS data) and levels of happiness (based on data from a smartphone 'Mappiness' application in which participants enter information on their perception of their wellbeing at certain heritage locations). The authors note that the

sample of people participating (smartphone users) were more likely to be younger and more affluent compared to an average (randomly sampled) population. Fujiwara also found an unexpected association between heritage volunteering and lower self-reported health, though he notes this may be an anomaly with the observational evidence as volunteers may have lower health status to start with (and it's inconsistent with the findings of other studies including those based on stronger intervention study designs). Fujiwara also calculated the wellbeing value of people visiting museums compared to other activities, and for example, Fujiwara 2013 estimated the value of visiting museums at approximately £3,200 per year per person, compared to arts participation at £1,500, being in the audience to arts at £2000, and participating in sports at £1500 per year.

Two quantitative observational studies found significant associations between higher visiting of heritage sites and museums and higher levels of health and life satisfaction, and between stopping visiting and lower levels of mental health and life satisfaction (Lakey et al., 2017); though for cross-sectional studies such as this (and for example), the possibility of reverse causality must be considered, with falling wellbeing leading to people stopping visiting. Leadbetter and O'Connor (2013) found evidence of significant associations between higher museum and historic site visiting and high life satisfaction.

A mixed-method study by DC Research (2015) found evidence that visiting independently owned historic houses and gardens improved social connectivity, education and learning, physical activity and health, the physical environment, the economy, employment levels, and viability of the local areas. Another mixed-method study by Aldridge and Dutton (2009) provides evidence that using museums, libraries and archives may increase learning (including health literacy), and social connectivity (including intergenerational).

Three qualitative studies also provide evidence that heritage visiting may improve a wide range of wellbeing-related outcomes, including social cohesion, the urban environment, community identity, social connectivity and cohesion, sense of belonging, sense of place, enjoyment, satisfaction, confidence, and learning, and provide opportunities for 'escape'/respite and recuperation (Bryson et al., 2002; Everett & Barrett, 2011; Packer, 2008).

Table 6. Visiting museums, historic houses, other heritage sites

Publication	Wellbeing domains	Main outcomes ('significant' = p ≤ 0.05)	On participants[i]	On wider community	Adverse effects[i]	Design	QA
Fujiwara, 2013	Individual wellbeing	Significant association between visiting & spending time in museums & higher happiness & self-reported health (visiting). People value visiting museums at ~£3,200 per year, compared to arts participation £1,500, being audience to arts £2000, participating in sports £1500. Significant association between volunteering & lower self-reported health (though note authors comments).	√	-	√	Quant	Lower quality
Fujiwara et al., 2014	Individual wellbeing	Visiting museums & living in proximity to heritage places/features significantly associated with higher life satisfaction.	√	-	-	Quant	Lower quality
Fujiwara et al., 2014A	No association	No significant association between frequent visits to museums & life satisfaction.	N/A	N/A	N/A	Quant	Lower quality
Fujiwara & MacKerran, 2015	Individual wellbeing	Visiting museums was significantly associated with happiness & relaxation (though includes exhibitions & libraries, in addition to museums).	√	-	-	Quant	Lower quality
Fujiwara et al., 2015	Individual wellbeing Social determinants of	Visitors to heritage sites, libraries or museums more	√	√	-	Quant	Lower quality

Publication	Wellbeing domains	Main outcomes ('significant' = p ≤ 0.05)	On participants[i]	On wider community	Adverse effects[i]	Design	QA
	health (from saving to NHS)	likely to report good health than those who don't. Estimated saving to NHS from reduction in GP visits & psychotherapy from heritage visiting (£193.2M).					
Lakey et al, 2017	Individual wellbeing	Higher visiting of heritage sites & museums significantly associated with higher levels of health & life satisfaction. Stopping visiting associated with lower levels of mental health & life satisfaction	√	-	-	Quant	Lower quality
Leadbetter & O'Connor, 2013	Individual wellbeing	Significant association between visiting museums & heritage sites & high life satisfaction.	√	-	-	Quant	Lower quality
DC Research, 2015	Individual wellbeing Community wellbeing Social relations Social determinants of health	Increased or improved social connectivity, education and learning, physical activity & health, physical environment, economy, employment, viability of the local areas.	√	√	-	M-M	Lower quality
Aldridge & Dutton, 2009	Individual wellbeing Social relations	Increased learning, social connectivity.	√	-	-	M-M	Lower quality
Bryson et al., 2002	Individual wellbeing Community wellbeing Social relations Social determinants of health	Increased or improved learning, community identity and social cohesion, physical environment, economic value.	√	√	-	Qual	Lower quality

Publication	Wellbeing domains	Main outcomes ('significant' = p ≤ 0.05)	On participants[i]	On wider community	Adverse effects[i]	Design	QA
Everett & Barrett, 2011	Individual wellbeing Community wellbeing Social relations	Increased or improved social connectivity, social cohesion, sense of belonging, enjoyment (e.g. "fun", "pleasure", "joy), self-esteem, confidence, sense of place, respite/recuperation.	√	√	-	Qual	Lower quality
Packer, 2008	Individual wellbeing	Increased satisfaction, respite/recuperation.	√	-	-	Qual	Lower quality

4. Heritage volunteering (Table 7)

Six included studies focussed on the wellbeing-related impacts of heritage volunteering across a range of settings such as museums or historic houses and gardens.

Two mixed-method studies were rated as higher methodological quality (IWM North et alia., 2017; North Manchester Museum et alia, 2010). They were both based in the Manchester area. IWM North and Manchester Museum (2017) was the final in a series of evaluations of the Inspiring Futures programme, a training and volunteering programme across ten heritage venues in greater Manchester. They conducted a series of quantitative surveys with venues, volunteers and alumni; and qualitative interviews with venue co-ordinators or managers, referrers and critical friends, strategic stakeholders, volunteers, and local non-participating venues; plus, group consultations with volunteers, observations of participant behaviour (5 venues), and surveys of 20 visitor groups. 75 percent of volunteers reported a significant increase in wellbeing after a year (WEMWBS – see table 7), and 60 percent reported sustained wellbeing over 2-3 years. 30 percent of volunteers found employment or other opportunities for getting into work. They also estimated that for every £1 invested approximately £3.50 of social and economic return was generated. Manchester Museum and Imperial War Museum North (2010) conducted a before and after evaluation on the InTouch volunteer and training program. They found evidence of post-intervention improvements to learning, education, skills and

qualifications, increased social connectivity and social cohesion, reduced social isolation, and improved confidence, self-esteem, pride, and sense of belonging among participating volunteers.

One lower quality quantitative study found evidence of a range benefits from heritage volunteering, including 81 percent of participants who reported they benefitted from improvements to their social connectivity. Smaller percentages of participants stated they benefitted from free access to facilities; knowledge, courses, and learning; discounts; food and drinks while working. 77 percent were satisfied and wanted no other benefits. 23 percent said they wanted more benefits. Some volunteers reported concerns about transport costs, and/or not being taken seriously by museum employees (Christidou and Hansen, 2015).

Three lower quality mixed-method studies report a wide range of beneficial impacts for volunteers, including improvements to learning and skills, employment, sense of empowerment, sense of belonging, sense of achievement, confidence, concentration, happiness, enjoyment, and social connectivity (Morris Hargreaves McIntyre, 2015; Rosemberg et al., 2011; Centre for Public Innovation, 2015).

Table 7. Heritage volunteering

Publication	Wellbeing domains	Main outcomes ('significant' = p ≤ 0.05)	On participants[i]	On wider community	Adverse effects[i]	Design	QA
IWM North et alia., 2017	Individual wellbeing Social connectivity Social determinants of health	Increases in wellbeing after 1 year, sustained for majority after 2-3 years (WEMWBS: life satisfaction, self-confidence, reduced isolated/feel close to others, resilience, sense of belonging). Increased employment opportunities & employment levels. Direct value of volunteer staff time. Reduced	√	√	-	M-M	**Higher quality**

Publication	Wellbeing domains	Main outcomes ('significant' = p ≤ 0.05)	On participants[i]	On wider community	Adverse effects[i]	Design	QA
		training costs. Increased visitor access to collections. Improved partnership practices. Improved cultural offer for adult social care. Medical care support reduction. Economic contribution. Improved family relationships. Reduced anxiety.					
Manchester Museum et alia, 2010	Individual wellbeing Community wellbeing Social relationships	Increased social connectivity, social cohesion, self-esteem, confidence, pride, sense of belonging, learning, education, skills, qualifications. Reduced social isolation.	√	√	-	M-M	**Higher quality**
Christidou & Hansen, 2015	Individual wellbeing Community wellbeing Social relationships Social determinants of health	Increased social connectivity, sense of belonging, feeling useful/doing something meaningful, enjoyment, using experience to help others, happiness, physical activity. 81% stated they benefitted from togetherness, co-presence, socializing (10%; knowledge, courses, learning (8%); party/social events; (8%); plus, other benefits such as free access (34%), discounts (6%), food & drinks while working (6%).	√	√	√	Quant	Lower quality

Publication	Wellbeing domains	Main outcomes ('significant' = p ≤ 0.05)	On participants[i]	On wider community	Adverse effects[i]	Design	QA
		77% stated they (were satisfied) wanted no other benefits in addition. 23% said they wanted more benefits. Some commented that they were concerned about transport costs, & not being taken seriously by museum staff.					
Morris Hargreaves McIntyre, 2015	Individual wellbeing Community wellbeing Social relationships	Increased skills & learning, social cohesion.	√	√	-	M-M	Lower quality
Rosemberg et al., 2011	Individual wellbeing Community wellbeing Social relationships	Improvements to learning & skills, ability to concentrate, make decisions, sense of 'playing a useful part in things', enjoyment, happiness, sense of achievement, confidence, curiosity, social connectivity (including intergenerational) & cohesion, civic participation, sense of empowerment (ability to influence local decision-making), sense of belonging.	√	√	-	M-M	Lower quality

Publication	Wellbeing domains	Main outcomes ('significant' = p ≤ 0.05)	On participants[i]	On wider community	Adverse effects[i]	Design	QA
Centre for Public Innovation, 2015	Individual wellbeing	Increased learning and skills, increased confidence, social connectivity. Reduced social isolation.	√	√	-	M-M	Lower quality

5. Social engagement and inclusion projects (Table 8)

Nine studies provide evidence on the wellbeing-related impacts of social engagement and inclusion projects delivered by the heritage sector, typically within museums. Two qualitative studies were rated as higher methodological quality (Lynch, 2011; Clennon & Boehm, 2014), and six mixed-method studies were rated as of lower methodological quality.

One higher quality qualitative study by Lynch (2011) identified impacts on the intermediate outcomes of the control/empowerment of individuals and communities, with some good examples of practice within most organisations (12 museums and galleries across all four nations of the UK), including co-production, partnership working, and public involvement in decision-making. There were, however, examples of approaches to engagement that were tokenistic and described as 'empowerment light', plus issues of under resourcing in terms of training and understanding, and problems with empowerment-related aspects of the ethos of some organisations and staff. Resources on 'both sides' of the engagement process (organisational representatives, and communities) were highlighted as important and often neglected features of effective, empowerment-based approaches to wider engagement. Another higher quality qualitative study by Clennon and Boehm (2014) evaluated a Young musicians for heritage project based in two youth groups (musical bands) in Manchester and South Cheshire. They report evidence of improvements to participants emotional awareness, self-esteem, and confidence in relation to sexual orientation, improved anger management, and improved social inclusion and relationship building within the groups.

We combined the findings of three similar studies led by Newman (Newman & McClean, 2004; 2006; Newman et al., 2005). The mixed-method studies identified a range of beneficial and adverse impacts on participants and their wider communities. Beneficial impacts included increased

levels of social connectivity and social capital, enhanced self-esteem, and economic, knowledge and skill development leading to reduced social exclusion. Some potential barriers to social exclusion were also identified that included barriers to access as a result of transport and entrance costs, issues of physical access for some groups, and concerns about not being made to feel welcome for some groups.

Hooper-Greeenhill et al. (2014) found evidence that large Local Authority museum-based social engagement projects improved social connectivity, social inclusion, social cohesion, community empowerment, confidence, learning and skills, (traditional) health promotion, self-esteem, and enjoyment. For example, over 90 percent of pupils perceived their museum visit as enjoyable and felt they had learnt something. They identified increased contact between the sectors, an increased number of secondary schools involved (38 percent of schools in 2007 above the 18 percent in 2004), schools from a wide range of areas and levels of deprivation, and an increase in cross-curricular activity from three percent in 2004 to 35 percent in 2007. For many museums working with the community was relatively new, with some engaging well but others not so successfully. However, 'non-formal' learning outcomes were positive for community participants (more so than for school pupils of the same age), and there was evidence of the museum experience having a profound 'holistic' impact on individual vulnerable young people.

An evaluation by ERS Research (2010) captured the outcomes of 17 case studies of museum-based community engagement projects. They identified beneficial impacts on education and learning, place attachment, sense of belonging, pride, and self-worth. They also identified a range of concerns about staff not having the skills to engage effectively with participants, that engagement might be 'too successful' and overwhelm resources and lead to disengagement by community members, and a potential lack of a strategic approach to engagement and the availability of associated resources.

One mixed-method study evaluated the National / Regional Museum Partnership Programme (2006-2007) that was designed to increase and deepen relationships between museums and (1577) schools, and to strengthen the relationship between museums and communities (Hooper-Greenhill et al., 2007). There were four key findings:

i) Museums targeted education and community groups that were perceived as disadvantaged or at risk of social exclusion (mostly school age children and young people, but also some adult groups); and most projects worked towards community cohesion and active citizenship, for example, with refugees and asylum seekers.

ii) Effective partnerships between the educational sector and museum sector were identified. This included increased contact between the sectors, an increased number of secondary schools involved (38 percent of schools in 2007, compared to 18 percent in 2004), schools from a wide range of areas and levels of deprivation, and an increase in cross-curricular activity from three percent in 2004 to 35 percent in 2007.

iii) Powerful learning outcomes for pupils. The perceptions of teachers and children were found to reflect one another, and over 90 percent of pupils perceived their museum visit as enjoyable and felt they had learnt something. Teachers valued the museum experience, for example, 97 percent thought their pupils were likely to be inspired to learn more. Learning outcomes teachers found to be important were: enjoyment, inspiration and creativity; action, behaviour and progression; knowledge and understanding; skills; and attitudes and values.

iv) Partnerships between the museum and the community. For many museums working with the community was relatively new, with some engaging well but others not so successfully. However, 'non-formal' learning outcomes were positive for community participants (more so than for school pupils of the same age), and there was evidence of the museum experience having a profound 'holistic' impact on individual vulnerable young people. The findings suggest there is potential for community work in museums, with development.

Another mixed-method study by Dodd et al. (2002) evaluated the Open Museum, a local community museum initiative that took museum collections out into their communities to connect with people who have had little engagement with museums. They found evidence of significant improvements to participants confidence, opportunities, values, and social connectedness.

Table 8. Social engagement/inclusion projects

Publication	Wellbeing domains	Main outcomes ('significant' = p ≤ 0.05)	On participants[i]	On wider community	Adverse effects[i]	Design	QA
Lynch, 2011	Individual wellbeing Community wellbeing	Intermediate outcomes (relating to control/empowerment of individuals & communities): Some good examples of practice within most organisations (including co-production, partnership working, role of public in decision-making). Examples of approaches to engagement that were tokenistic, & under resourced (in terms of the training, understanding & ethos, & resources on 'both sides' of the engagement process – organisational representatives/communities).	√		√	Qual	**Higher quality**
Clennon & Boehm, 2014	Miscellaneous (Young musicians for heritage project)	Improvements to emotional awareness, self-esteem, anger management, confidence, inclusion & relationship building.	√		-	Qual	**Higher quality**
Newman & McClean, 2004 Newman et al., 2005 Newman & McClean, 2006	Individual wellbeing Community wellbeing Social relations	Reduction of social exclusion through development of knowledge, skills & competencies (human capital and economic elements). Increased social connectivity, social capital. Increased self-esteem & positive identity construction. Some barriers to access/inclusion identified: financial (entrance charges, transport), physical access issues for people with disabilities, and access to museums in terms of being made to feel welcome or that it was 'not for them'.	√	√	√	M-M	Lower quality

Publication	Wellbeing domains	Main outcomes ('significant' = p ≤ 0.05)	On participants[i]	On wider community	Adverse effects[i]	Design	QA
Hooper-Greeenhill et al., 2014	Individual wellbeing Individual health Community wellbeing Social relations	Increased or improved social connectivity, social inclusion, social cohesion, community empowerment, confidence, learning & skills, health promotion, self-esteem, enjoyment.	√	√	-	M-M	Lower quality
ERS Research, 2010	Individual wellbeing Social relations	Increased education and learning, place attachment, sense of belonging, pride, self-worth. Intermediate outcomes: Increased participation, volunteering, collaborative working. Concerns staff not having skills to engage effectively. Staff concerns engagement might be 'too successful', overwhelm resources and lead to disengagement. Concerns about lack of strategic approach to engagement and associated resources.	√		√	M-M	Lower quality
Hooper-Greenhill et al., 2007	Miscellaneous (Museum, school, community partnership programme)	Increased or improved enjoyment, inspiration & creativity, action, behaviour, knowledge & understanding, learning & skills, attitudes and values. Increased social connectivity, inclusion.	√	√	-	M-M	Lower quality
Dodd et al., 2002	Miscellaneous (Open Museums)	Increased or improved confidence, opportunities, perceptions/values, social connectivity.	√		-	M-M	Lower quality

6. **Activities in historic landscapes & parks** (Table 9)

Four studies focussed on the wellbeing-related outcomes of activities in historic landscapes and parks (Barton et al., 2009; Baggott et al., 2013; Research Box et alia., 2009; Research Box et alia., 2011).

One quantitative study was rated as higher methodological quality (Barton et al., 2009). Barton et al (2009) explored the benefits of walking in greenspaces of high natural and heritage value in the East of England. They used standardised measures of self-esteem (Rosenberg Self-Esteem Scale [RSE], Rosenberg 1989; and mood (short version of the Profile of Mood States test [POMS] and examined differences before and after activity. Participants had significantly reduced feelings of anger, depression, tension and confusion after activities ($p < 0.05$). They found a 'small (effect size $\eta^2 = 0.03$) but significant increase in self-esteem scores in the post-intervention group (those just leaving, compared to those just arriving) ($t(124) = 1.86$, $p = 0.0325$, one-tailed).' The combined average self-esteem score reported for those users who had just arrived at the sites was 18.93 (SD = 4.96), and for those just leaving the score had improved to 17.49 (SD = 3.58) (note: the lower the value, the higher the self-esteem). Authors note the self-esteem scores of those arriving was high (this may either be associated with people with higher than average wellbeing accessing heritage-related activities, compared to those who lower levels, or with the effects on wellbeing just arriving for a 'day out'). Length of stay had no significant effect. Authors noted some potential limitations of the study. The sample was only representative of those visiting sites on the day (visitors were more likely to be older and female), and findings may also vary with weather, temperature, season. They were (unsurprisingly) unable to separate effects of walking, exposure to nature, and exposure to heritage features of the landscapes.

One mixed-method study of lower methodological quality (Baggott et al., 2013) evaluated the impacts of the HLF Parks for People programme (135 projects across the UK) that aimed to ensure that every community had access to a well-designed public park (maintained to Green Flag Award standards), opportunities to learn about the heritage value of their park, and opportunities to take an active part in managing and using their park. Over 50% of the Parks for People programme investment went to the 20% most deprived areas in the UK. They found that the programme was progressing well towards its aims and objectives by improving intermediate wellbeing-related outcomes (increased range of

audiences, conserved and improved heritage value, and increased range of volunteers) and had increased the skills and knowledge of participants.

Two qualitative studies (Research Box et al., 2009, 2011) rated as lower methodological quality assessed the cultural services and 'experiential qualities' provided by landscapes including heritage landscapes and features in eight (2009) then six (2011) 'character areas' across England with a mix of landscape status (enhancing, diverging, maintained, neglected environments). They found that visitors and people living or working close to 'character areas' experienced a wide-range of beneficial impacts on their wellbeing, including increased sense of place, pride, identity, and sense of belonging, increased levels of physical activity and social interactions, and reduced stress (table 3).

Table 9. Activities in historic landscapes & parks

Publication	Wellbeing domains	Main outcomes ('significant' = $p \leq 0.05$)	On participants[i]	On wider community	Adverse effects[i]	Design	QA
Barton et al., 2009	Individual wellbeing	Feelings of anger, depression, tension & confusion all significantly reduced; vigour & self-esteem increased.	√		-	Quant	**Higher quality**
Baggott et al., 2013	Social determinants Individual wellbeing	Increased skills & knowledge. Intermediate outcomes: Increased range of audiences, conserved & improved heritage value, increased range of volunteers.	√	√	-	M-M	Lower quality
Research Box et alia., 2009	Individual wellbeing Community wellbeing Social relationships	Increased sense of place, identity & heritage; inspiration; relaxation, respite & recuperation; education, learning, creativity & skills; social & intergenerational connectedness. Reduced stress.	√	√	-	Qual	Lower quality
Research Box et alia., 2011	Individual wellbeing Individual health Community wellbeing Social relationships	Increased sense of place, pride, identity, sense of belonging, sense of the past/heritage; inspiration, spirituality & connection to nature; relaxation, respite & recuperation; recreation; education, learning, creativity & skills; physical activity; social & intergenerational connectedness. Reduced stress.	√	√	-	Qual	Lower quality

Publication	Wellbeing domains	Main outcomes ('significant' = p ≤ 0.05)	On participants[i]	On wider community	Adverse effects[i]	Design	QA

7. Community archaeology or heritage research (Table 10)

Six studies provide evidence on the wellbeing-related outcomes of community archaeology or community heritage research projects (Sayer, 2015; Nevell, 2015; Neal and Roskams, 2013; Kiddey, 2017; Johnston and Marwood, 2017; McMillan, 2013).

One quantitative study rated as higher methodological quality (Sayer, 2015) investigated the impacts of six community archaeological excavation projects on measurements from wellbeing scales: PANAS that measured positive effects (attentive, interested, alert, excited, enthusiastic, strong, inspired, active, proud, and determined) and negative effects (distressed, jittery, guilty, afraid, irritable, ashamed, scared, hostile, nervous, and upset), and MVAS that measures levels of interest, connectivity, happiness and satisfaction. They detected significant impacts (increases) to participants levels of happiness, satisfaction, interest, social connectivity, and their perception of being a 'strong' person after the intervention, compared to before; although enthusiasm appeared to reduce significantly during the projects (based on post-test/intervention measurement).

One qualitative study (Johnston and Marwood, 2017), rated as higher methodological quality, examined the impacts on wellbeing of three 'action heritage' projects in South Yorkshire. They report beneficial impacts on a range of participants across the projects. They found that residents from a homeless hostel for young people increased skills and confidence (as 'action researchers'), 'hopes for their futures', sense of heritage and sense of identity. Primary school aged children (aged 10-11 years) benefitted from improvements to their sense of heritage, knowledge and skills, sense of empowerment, imagination and creativity. Participants in a local history group (mostly older people) experienced enhanced sense of heritage, attachment to place, and personal identity, and increased social connectedness. In each of the three projects, the empowerment of participants as co-producers and 'action researchers' was seen as an important means of enhancing wellbeing outcomes.

One lower methodological quality mixed-method study that evaluated the Dig Manchester Project found evidence that the intervention increased participants confidence and general wellbeing, social connectivity, and sense of belonging (Nevell, 2015). Three lower methodological quality qualitative studies (Neal and Roskams, 2013; Kiddey, 2017; Johnston and Marwood, 2017), set in York, Bristol, and South Yorkshire (respectively), also found evidence of improvement to the wellbeing of participants, including improved learning and skill development, trust, pride, team working, sense of belonging, sense of ownership, and general wellbeing. In addition to positive impacts, Neal and Roskams (2013) also report some potential adverse impacts from increased tension resulting from conflict between the organisation (a University) engaging with the local community. One descriptive case-study (lowest quality in comparison to other methodological designs) also describes beneficial impacts on personal wellbeing, social connectivity, and community cohesion from the Past in Mind project which explored relationships between archaeology and mental health recovery.

Table 10. Community archaeology or heritage research

Publication	Wellbeing domains	Main outcomes ('significant' = p ≤ 0.05)	On participants[i]	On wider community	Adverse effects[i]	Design	QA
Sayer, 2015	Individual wellbeing	Significantly increased happiness, satisfaction, interest, connectivity, perception of being 'strong'. Enthusiasm significantly reduced post-test.	√	-	√	Quant	**Higher quality**
Johnston & Marwood, 2017	Individual wellbeing Social relationships	Increased skills and confidence, hope, sense of heritage, sense of identity, knowledge and skills, sense of empowerment, imagination and creativity. attachment to place, personal identity, and social connectedness.	√	-	-	Qual	**Higher quality**
Nevell, 2015	Individual wellbeing Community wellbeing Social relationships	Increased confidence & wellbeing, social connectivity, sense of belonging.	√	√	-	M-M	Lower quality
Neal & Roskams, 2013	Individual wellbeing Community wellbeing	Increased learning & skill development, trust/pride, team working, sense of belonging, sense of ownership.	√	√	√	Qual	Lower quality

Publication	Wellbeing domains	Main outcomes ('significant' = p ≤ 0.05)	On participants[i]	On wider community	Adverse effects[i]	Design	QA
	Social relationships	Increased tension arising from conflict between the organisation engaging with the local community					
Kiddey, 2017	Individual wellbeing Community wellbeing Social relationships	Increased happiness, interest, learning & skills, social connectivity, sense of belonging, sense of achievement, sense of ownership.	√	√	-	Qual	Lower quality
McMillan, 2013	Individual wellbeing Community wellbeing Social relationships	Improvements to personal wellbeing, social connectivity, community cohesion.	√	√	-	DC-S	Lowest quality

8. Living in historic places (Table 11)

Six evaluations rated as lower quality and two (lowest methodological quality) case-studies (within one report) examined the wellbeing-related impacts of living in historic places, including the impacts of heritage-led regeneration projects (from a total of seven publications).

Two quantitative studies used observational designs to examine associations between living in or near historic places or assets/features (Bradley et al., 2009; Bradley et al., 2011). Both studies found evidence of associations between higher levels of heritage assets/places, or heritage visits, and higher levels of perceived social capital and sense of place. In the earlier (2009) study there were positive associations for teenagers and adults, though the associations were weaker for teenagers. In the later study (2011) associations between heritage assets/places and social capital were found to be significant for adults only.

In one lower quality mixed-method study, AMION Consulting and Locum Consulting (2010), found that places that have a reputation for historic assets are popular places to visit, and historic buildings and other assets create opportunities for commercial, leisure and cultural activity. The economic benefits of heritage-led regeneration were found to be: increased business turnover; increased local economic activity, employment opportunities, and value for money (a return of £1.60 for every £1 spent). Social and environmental benefits included improved physical environments (enhanced townscapes); increased civic pride and sense of identity; improved place vitality, social interaction, community engagement, community safety and crime reduction, image of local areas, and sustainability. Historic places and assets were seen to act as catalysts for regeneration. In another lower quality mixed-method study, BritainThinks (2015) found that residents and stakeholders saw heritage as important at individual, local, and national levels. Perceived individual level benefits identified included the provision of leisure opportunities, and facilitation of learning contributions to personal identity. At a local level, heritage was seen as contributing to residents' perceptions of their local area as better places to live, and to improving their quality of life by supporting the local economy, making places more attractive, supporting local pride, and promoting social cohesion.

In a qualitative study of the views of long-term residents living in Amsterdam's historic canal district (rated as lower methodological quality), Pinkster & Boterman (2017) found that the participants had strong emotional attachments to their local area, a sense of pride and privilege, and a strong sense of place that they partly attributed to living in a historic place. The residents, however, reported rising levels of tourism were leading to discontent and disaffiliation for long-term residents (with different coping mechanisms to deal with the disturbance, using resources to move either within the home or away, and feelings of powerlessness). Participants had experienced increasing loss of ordinary residential functions, for example, the replacement of local food stores with tourist amenities. This indicates growing disruption to, or reduction of, sense of place, sense of belonging, sense of control, and loss of ontological security (Giddens, 1991) for the long-term residents.

Two studies rated as lowest methodological quality, that included four relevant descriptive case-studies, describe both beneficial and adverse impacts for people living in historic places, including those undergoing heritage-led regeneration. Andrews (2014) and Labadi (2011) describe positive impacts from regeneration including improvements to local urban environments; increased social connectivity, income for businesses, employment opportunities, enjoyment of new facilities; increased learning, ambition, skills, qualifications, and self-esteem; and reduced barriers

to social mobility. Labadi (2011), however, also describes some potential adverse impacts that include disruption to local transport, pollution (air, noise) pedestrian safety, and issue relating to construction site safety and crime (theft and vandalism) during the construction phase of a regeneration programme in Liverpool. Local residents also had concerns about potential dislocation and their potential inability to afford new ('luxury flat') properties and other concerns relating to gentrification once the development was complete. During the five-year regeneration period, quality of life, income and employment levels remained low for local residents and workers. Slight improvements were observed at the end of the process (Table 9).

Table 11. Living in heritage environments

Publication	Wellbeing domains	Main outcomes ('significant' = p ≤ 0.05)	On participants[i]	On wider community	Adverse effects[i]	Design	QA
Bradley et al., 2009	Individual wellbeing Community wellbeing Socio-environmental determinants	Association between higher level of heritage features/places, heritage visits, & higher sense of place. Association between higher level of heritage features/places, heritage visits, & higher social capital. Associations weaker for teenagers compared to adults.	√	N/A	-	Quant	Lower quality
Bradley et al., 2011	Individual wellbeing Community wellbeing Socio-environmental determinants	Association between higher level of heritage features/places & higher sense of place. Association between higher level of heritage features/places & higher social capital. Associations for adults only.	√	N/A	-	Quant	Lower quality
AMION Consulting et alia., 2010	Individual wellbeing Community wellbeing Socio-environmental determinants	Improved physical environment, sense of place, sense of identity, sense of pride, community safety (& crime reduction), image of area. Increased regeneration & sustainability. Increased business turnover, economic activity (GVA), employment opportunities. Value for money.	√	√	-	M-M	Lower quality
BritainThinks, 2015	Individual wellbeing	Heritage seen as important (at individual, local, national levels). At local level	√	√	-	M-M	Lower quality

Publication	Wellbeing domains	Main outcomes ('significant' = p ≤ 0.05)	On participants[i]	On wider community	Adverse effects[i]	Design	QA
	Community wellbeing Socio-environmental determinants	heritage seen as contributing to a better place to live, improved quality of life (by improving economy, physical environment, local pride, social cohesion). At individual level heritage seen as providing opportunities for leisure, learning, & personal identify).					
Pinkster & Boterman, 2017	Individual wellbeing Community wellbeing Socio-environmental determinants	Strong emotional attachment to their local area attributed to nature of heritage environment. Living in Amsterdam canal district was increasingly (over time & with increased development of tourism) leading to rising discontent & disaffiliation for long-term residents (with different coping mechanisms to deal with the disturbance, using resources to move either within the home or away, & feelings of powerlessness). Residents experienced loss of ordinary residential functions (e.g. replacement of local food stores with tourist amenities, & residential homes being rented to tourists).	√		√	Qual	Lower quality
Andrews, 2014	Individual wellbeing Community wellbeing Socio-environmental determinants	1. Reduction of physical & psychological barriers (connections between local community & local heritage area/castle). Increase social connectivity, learning & skills, ambition. Reduction in anti-social behaviour. 2. Increased skills & qualifications & improved attitude to learning, increase self-esteem, reduced barriers to social mobility.	√	√	-	D-CS	Lowest quality

Publication	Wellbeing domains	Main outcomes ('significant' = p ≤ 0.05)	On participants[i]	On wider community	Adverse effects[i]	Design	QA
Labadi, 2011	Individual wellbeing Community wellbeing Socio-environmental determinants	Salford: Improvements to physical environment, education & employment opportunities, income to local businesses, enjoyment of facilities. Liverpool: disruptions/adverse impacts during construction phase to local transport, pollution (air, noise) pedestrian safety, construction site safety & crime (theft, vandalism). Concerns about gentrification & ability of locals to afford new properties, parking issues, transient population in new housing. Quality of life, employment & income remained low throughout the regeneration (5 year). At final stage of regeneration: slight improvement to education & personal aspirations, sense of community & social cohesion, security & crime.	√ √	√ √	- √	D-CS	Lowest quality

9. Assessments of wider social & economic impacts of historic places and assets (Table 12)

Six mixed-method studies rated as lower methodological quality investigated potential wider social and economic impacts of historic places and assets. They all found evidence of benefits to participants and their wider communities. A wide range of benefits included Increased or improved learning and skills, inspiration, social connectivity and cohesion (including intergenerational), sense of place and community identity, local income, employment, and economic benefits, reduced social stigma, increased dignity and respect, increased compassion, increased mental stimulation, and reduced social isolation. Historic churches were associated with opportunities for worship, volunteering, pastoral care, support to vulnerable people, and social events/connectivity (ECORYS, 2014; Scott, 2006; Travers, 2006; Regeneris Consulting, 2017).

Two evaluations of wider social and economic impacts of historic places and assets focussed specifically on the wellbeing-related Impacts of heritage funding of large-scale programmes. It is, however, important to note that the vast majority of the studies and evaluations contained in this review contain evidence on the impacts of heritage funding across the range of evidence themes. Both evaluations were rated as of lower methodological quality. Both report evidence of beneficial impacts on participants and wider communities.

Key findings from an evaluation by Applejuice and HLF (2008) showed that HLF projects create opportunities for a variety of positive (intermediate) outcomes; are generally successfully inclusive and target diverse groups and communities; provide varied opportunities for volunteering; and involve participation and learning. Participants enjoyed taking part in heritage-based activities which led to the development of a range of new skills and capabilities, and led to positive changes in values, perceptions and behaviour. Positive impacts on communities were described in relation to providing a community focus, increasing social inclusion and cohesion by building links within and between communities (including across generations), proving economic development benefits, and strengthened local organisations.

HLF (2009) evaluated the impacts of heritage funding through 55 neighbourhood surveys conducted between 2005 and 2009. Data was collected via face-to-face interviews with adults (aged 16 +) living within a pre-set walking distance of the selected projects (100 visitors per project). The report summarises the impact of HLF funding under three key themes:

i) Quality of life/sustainable communities. Findings included 26 percent of local community members felt that ‘quality of life’ was either much better (10 percent) or a little better (15 percent) as a direct result of the HLF funded work; and local BME community members perceived greater benefits from the site being a good place to work, and from enhanced quality of life.

ii) Sense of heritage, identity and pride. Findings included: 56 percent of local community members agreed that the site ‘provides me with an important connection to this area’s history’.

iii) Opportunities for children and young people. Findings included: 24 percent of young people and 28 percent of those with children felt that their ‘quality of life’ improved as a result of the HLF funded work.

Table 12. Assessments of wider social & economic impacts

Publication	Wellbeing domains	Main outcomes ('significant' = p ≤ 0.05)	On participants[i]	On wider community	Adverse effects[i]	Design	QA
Applejuice & HLF, 2008	Individual wellbeing Community wellbeing Social relationships Socio-environmental determinants	Increase social connectivity (including inter-generational) & social cohesion, enjoyment, skills. Increased economic development & strengthened local organisations.	√	√	-	M-M	Lower quality
HLF, 2009	Individual wellbeing Community wellbeing Socio-environmental determinants	Improved quality of life, physical environment, sense of place, sense of identity, sense of pride.	√	√	-	M-M	Lower quality
ECORYS, 2014	Individual wellbeing Community wellbeing	Increased social connectivity. Contribution to local economy. Intermediate outcomes (opportunities for worship, volunteering, pastoral care, support to vulnerable, social events).	√	√	√	M-M	Lower quality
Scott, 2006	Individual wellbeing Community wellbeing Social determinants of health	Increased or improved learning & skills, inspiration, pleasure, social connectivity & cohesion, sense of place/community identity, economy/local income, employment	√	√	√	M-M	Lower quality
Travers, 2006	Individual wellbeing Community wellbeing	Increased education & learning, economic & employment benefits, increased social connectivity, reduced social isolation.	√	√	√	M-M	Lower quality
Regeneris Consulting, 2017	Individual wellbeing Community wellbeing Social determinants of health	Improved social connectivity, inclusion, & isolation; reduced stigma; increased dignity, respect, compassion, mental stimulation, learning & skills, economy & employment.	√	√	√	M-M	Lower quality

Transferability

Transferability was assessed in terms of whether the setting and population were common to the UK. Based on our, albeit basic, assessment of transferability, the vast majority of the studies and evaluations included in this review appear to be relevant and potentially transferable to UK settings and populations. Most were conducted in the UK, and most of studies conducted elsewhere were in settings and on populations common in the UK. Only two studies, set in the US and the Netherlands, focussed on settings or populations that are not common in the UK (Table 13).

Table 13. Transferability

Study	UK?	Is the setting & population common in UK?
1. Balshaw, Undated	Yes	Yes
2. Flow Associates, 2017	Yes	Yes
3. Froggett et al, 2011	Yes	Yes
4. Neal & Coe, 2013	Yes	Yes
5. Morse et al., 2015	Yes	Yes
6. Neal, 2012	Yes	Yes
7. Thomson et al, 2018	Yes	Yes
8. Todd et al., 2017	Yes	Yes
9. Wilson & Whelan, 2014	Yes	Yes
10. Dodd & Jones, 2014	Yes	Yes
11. Goddard & Rasbery, Undated	Yes	Yes
12. Balshaw, Undated	Yes	Yes
13. Ridley, 2014	Yes	Yes
14. Ander et al., 2013	Yes	Yes
15. Ander et al., 2013A	Yes	Yes
16. Camic et al., 2017	Yes	Yes
17. Chatterjee et al., 2009	Yes	Yes
18. Chatterjee et al., 2009A	Yes	Yes
19. Lanceley et al., 2012	Yes	Yes
20. Paddon et al., 2014	Yes	Yes
21. Solway et al., 2015	Yes	Yes
22. Thomson & Chatterjee, 2016	Yes	Yes
23. Thomson et al., 2012	Yes	Yes
24. Thomson et al., 2012A	Yes	Yes
25. Bryson et al., 2002	Yes	Yes
26. DC Research, 2015	Yes	Yes
27. Fujiwara, 2013	Yes	Yes
28. Fujiwara et al., 2014	Yes	Yes
29. Fujiwara et al., 2014A	Yes	Yes
30. Fujiwara & MacKerran, 2015	Yes	Yes
31. Fujiwara et al., 2015	Yes	Yes
32. Lakey et al, 2017	Yes	Yes
33. Leadbetter & O'Connor, 2013	Yes	Yes
34. Aldridge & Dutton, 2009	Yes	Yes
35. IWM North et alia., 2017	Yes	Yes

36. Manchester Museum et alia, 2010	Yes	Yes
37. Rosemberg et al., 2011	Yes	Yes
38. Centre for Public Innovation, 2015	Yes	Yes
39. Lynch, 2011	Yes	Yes
40. Clennon & Boehm, 2014	Yes	Yes
41. Newman & McClean, 2004 42. Newman et al., 2005 43. Newman & McClean, 2006	Yes (all 3)	Yes (all 3)
44. Hooper-Greeenhill et al., 2014	Yes	Yes
45. ERS Research, 2010	Yes	Yes
46. Hooper-Greenhill et al., 2007	Yes	Yes
47. Dodd et al., 2002	Yes	Yes
48. Baggott et al., 2013	Yes	Yes
49. Barton et al., 2009	Yes	Yes
50. Research Box et alia., 2009	Yes	Yes
51. Research Box et alia., 2011	Yes	Yes
52. Johnston & Marwood, 2017	Yes	Yes
53. McMillan, 2013	Yes	Yes
54. Neal & Roskams, 2013	Yes	Yes
55. Nevell, 2015	Yes	Yes
56. Kiddey, 2017	Yes	Yes
57. AMION Consulting et alia., 2010	Yes	Yes
58. Andrews, 2014	Yes	Yes
59. Bradley et al., 2009	Yes	Yes
60. Bradley et al., 2011	Yes	Yes
61. BritainThinks, 2015	Yes	Yes
62. Labadi, 2011	Yes	Yes
63. Applejuice & HLF, 2008	Yes	Yes
64. ECORYS, 2014	Yes	Yes
65. HLF, 2009	Yes	Yes
66. Regeneris Consulting, 2017	Yes	Yes
67. Travers, 2006	Yes	Yes
68. Morris Hargreaves McIntyre, 2015	UK & other countries	Yes
69. Sayer, 2015	UK and Non-UK (specific countries not specified)	Yes
70. Packer, 2008	No (Australia)	Yes
71. Scott, 2006	No (Australia)	Yes
72. Everett & Barrett, 2011	No (Australia - Tasmania)	Yes
73. Christidou & Hansen, 2015	No (Norway, Denmark and Sweden)	Yes
74. Smiraglia, 2015	USA	No
75. Pinkster & Boterman, 2017	No (Netherlands)	No

4. Discussion, conclusions and recommendations

The included studies present consistent evidence from qualitative, quantitative, and mixed method studies (including observational and intervention study designs, across a range of heritage-related interventions, settings, and populations) that historic places and assets, and associated interventions, can have a wide range beneficial impacts on the physical, mental, and social wellbeing of individuals and communities.

There was also some evidence of potential negative/adverse impacts of some interventions on some participants. This is not unusual for complex social interventions delivered in complex communities and across a varied range of participants. Adverse impacts appear to be related to how well the design and delivery of interventions took into consideration the needs of specific population groups. It appears that most potential adverse impacts could be prevented or ameliorated by well designed, resourced and implemented interventions. Evaluations should *always* attempt to detect potential adverse impacts of interventions, so they can be addressed in the future. Studies should set out to examine or 'view' both beneficial and adverse impacts through an 'inequalities lens' focussed on the distribution of positive and negative impacts within and across population groups.

Limitations within the review

Current quality assessment tools that were originally designed for use on clinical interventions are inappropriate for use on many of these complex, non-standardised, social interventions in community settings (see Hawe et al., 2004). The methodological quality of the evidence-base on the whole, however, currently appears to be low. This was the case both when we assessed a random sample of the studies using the full versions of the quality appraisal tools, and when we assessed all the studies using the more streamlined approaches. The pragmatic approach to quality assessment that we adopted, while making the review manageable within logistical constraints, did have the benefit of being sensitive enough to reveal relative strengths within the included body of evidence, and to allow for the identifications of some (relatively) 'higher' methodological quality studies to inform the design of future research. Development of suitable tools for assessment of the methodological quality of research on complex social determinants of wellbeing in community settings is required; this should include tools for the combined assessment of mixed-method studies.

We only used latest reports in series for logistical reasons, so may have missed some specific findings; although we did include the most recent evidence.

We had planned to conduct forward citation searches from all included studies, however, the large number of included studies and logistical constraints prevented this; although the searches, contact with experts, and backward citation 'snowballing' had reached saturation point in the identification of further evidence (additional searches identifying sources that had already been located).

The interventions were complex and multifaceted, with components relating to heritage and other components not related to heritage. We were, for example, unable to distinguish between the impacts of landscapes in general and the heritage features of landscapes (though we note in the UK, all landscapes, including seemingly wild areas, have been managed by human populations for centuries if not millennia, and so many may be considered 'historic landscapes'). Inability to distinguish between the 'true' determinants of wellbeing within complex social interventions is a common problem (Orton et al., 2017). It is possible that non-heritage interventions that, for example, bring people together, or support people, may have similar outcomes. Further, high quality longitudinal studies with control/comparator groups may help to disentangle this complex picture.

It is unusual that the majority of the located studies and evaluations were conducted in UK settings, as reviews in high-income countries are often currently dominated by evidence from the US . This may indicate a limitation in the searches, as our hand searches of organisational websites focussed on the UK context and we conducted searches in the English language only. We did, however, conduct comprehensive searches of databases and grey literature sources and multiple supplementary search methods. The large proportion of evidence from the UK may also indicate that the UK is a leader in research on the wellbeing impacts of historic places and assets.

Limitations within the included studies

There were a variety of attempts to conceptualise, define, describe, and measure wellbeing across the included studies. We identified over 180 distinct indicators/measures of wellbeing outcomes across the studies. The largest number of indicators/outcomes identified came from within the broad category/domain of 'mental capital', followed by 'social capital'. Relatively few indicators of 'physical capital' (physical health), 'environmental capital' or 'economic capital' were measured or observed. This is in part a reflection of the focus of the studies (on wellbeing) and the nature of the participants (a reflection of their characteristics and wellbeing status). The measurement of wellbeing-related outcomes should vary across contexts, settings, and populations. The heritage sector may, however, benefit from a shared

and evidenced-based approach to the conceptualisation of wellbeing and community wellbeing (a shared 'vision'). This could subsequently lead to common definitions and more consistent (and therefore comparable) approaches to measurement, while not ignoring the importance of context. Dodge et al. (2012) provides a good starting point for understanding and potentially overcoming the challenges of defining individual wellbeing. Atkinson et al. (2017) explores the issues and some solutions in the context of community wellbeing.

Looking across the included studies there appears to have been considerable efforts by heritage-related institutions and actors to target interventions towards minority, disadvantaged and vulnerable groups, including homeless people, people from economically disadvantaged backgrounds, black and minority ethnic groups, children and young people, older people, women, and people experiencing physical and mental health issues and disabilities. The majority (45) of the studies examined interventions either targeted at these groups, or potential impacts on them (Johnston & Marwood, 2017; McMillan, 2013; Neal & Roskams, 2013; Nevell, 2015; Kiddey, 2017; Balshaw, Undated; Froggett et al, 2011; Neal & Coe, 2013; Morse et al., 2015; Neal, 2012; Thomson et al, 2018; Todd et al., 2017; Wilson & Whelan, 2014; Dodd & Jones, 2014; Goddard & Rasbery, Undated; Ridley, 2014; Ander et al., 2013; Ander et al., 2013A; Camic et al., 2017; Chatterjee et al., 2009; Chatterjee et al., 2009A; Lanceley et al., 2012; Paddon et al., 2014; Smiraglia, 2015; Solway et al., 2015; Thomson & Chatterjee, 2016; Thomson et al., 2012; Thomson et al., 2012A; Thomson et al., 2012B; IWM North et alia., 2017; Morris Hargreaves McIntyre, 2015; Manchester Museum et alia, 2010; Centre for Public Innovation, 2015; Andrews, 2014; Bradley et al., 2009; Bradley et al., 2011; Pinkster & Boterman, 2017; Labadi, 2011; ERS Research, 2010; Everett & Barrett, 2011; Aldridge & Dutton, 2009; Scott, 2006; Travers, 2006; Hooper-Greenhill et al., 2007; Clennon & Boehm, 2014). The review inclusion criteria, however, intentionally led to the identification of studies likely to be targeted at such participants and their wellbeing. It was not intended to be a representative sample of the levels of diversity across the heritage sector. We are unable, therefore, to reach conclusions about levels of diversity and inclusion across governance, management, stakeholders, staff, volunteers, users and visitors. A comprehensive investigation of policies, practices, and level of representation would be needed to develop this understanding across the sector; something that has already been recommended by others attempting to investigate diversity and inclusion within museums (Turtle and Bajwa, 2016).

Interventions that are targeted at disadvantaged groups may help to improve their wellbeing, and many of the studies in this review demonstrate such improvements (alongside some adverse impacts). Targeted interventions may also lead to relative improvements in

comparison to other individuals and groups (including the less-disadvantaged). Inequalities are relative. The included evaluations did not make comparisons *between* groups, such as high and low-income groups, people with and without disabilities, male and female participants, different ethnic groups, or different age groups. The evaluations did not examine the differential distribution of impacts (relative inequalities in outcomes) across groups. They therefore provide little insight into how the interventions may have addressed population level wellbeing-related inequalities. High quality quantitative comparative evaluations of interventions are needed. Future evaluations should pay attention to data collection, disaggregation, stratification and analysis of the distribution of impacts of interventions across population sub-groups, including different socioeconomic, gender, ethnic, age, sexual identity, sexuality, and disability groups.

The coverage of the evidence by theme was also limited in some important, community-related areas. Further evidence on living in historic places, 'everyday heritage', and activities in heritage landscapes and parks is needed.

The methodological quality of the included quantitative, and quantitative elements of mixed-method studies was typically low within most of the evidence themes.

For observational studies, potential reverse causality, with individuals of higher health and wellbeing status being more likely to access heritage, can be addressed through stronger longitudinal research designs that are more able to provide insight into causality (and not just the associations observed in single time-point cross-sectional studies). Though we note, an understanding of the impacts of heritage interventions would ideally be based on high quality intervention studies and not evidence from inherently weaker observational designs. Self-section bias (when those with higher wellbeing are more likely to participate) may be addressed in some situations, most likely larger scale evaluations, with random or cluster sampling methods.

The included studies were predominantly based in UK settings and in settings common to the UK and have a good degree or transferability within the UK heritage context. Further studies based in Scotland, Wales, Northern Island are, however, needed. The majority of the research set in England was conducted in locations in London and the South East region. Schifferes (2015) describes the geographical coverage of heritage assets:

'*local areas rich in heritage assets, and with a vibrant role for the public, exist in both the wealthiest and most deprived corners of Britain. Benefiting from a local focus, the* [heritage] *Index shows heritage is as strong in rural areas as in urban areas, and any concerns about a north-south divide are misplaced. While London has boroughs with among the highest heritage scores, Liverpool outperforms all other big cities of the south. As a clear reminder of our identity as island nations, we also find that coastal areas perform particularly well in our Index, with extensive natural heritage assets'* (Schifferes, 2015).

This should be taken into consideration in the planning of future research, as relatively few studies were conducted in other regions, in rural areas, and in coastal areas. Only two studies were conducted in Liverpool (Labadi, 2011; Regeneris Consulting, 2017), for example.

Only two of the included studies used comparator groups, which limits the conclusions that can be drawn as to whether any observed impacts were due to the intervention being evaluated, or whether they were the result of other changes going on in the communities at the same time. The studies that did use comparator groups were limited to evaluations of object handling interventions in healthcare settings (Thomson et al., 2012 and Thomson et al., 2012B). They used images of objects in the comparator groups, in comparison to object handling sessions. The selection of the comparator groups should however be questioned, and other comparators considered. What would have happened if resources dedicated to delivering object handling sessions in hospitals were dedicated to other activities or interventions? Would talking therapies conducted by psychologists achieve similar improvements in emotional wellbeing? Would the resources have a greater impact if they were directed towards addressing nursing shortages, for example, so nurses could provide higher levels of clinical and emotional support to patients? Future studies should use carefully selected comparator groups to address this.

Object handling sessions in healthcare settings are relatively simple and standardisable interventions, even when compared to cultural activity interventions in museums which tend to include interactions with historic objects as part of more multifaceted interventions. Hamilton et al (2002) argue that the evaluation of outcomes of arts interventions in clinical settings may be easier than assessing the impact on communities, '*where it may be difficult to link specific aspects of the intervention to specific outcomes*'; this may also be the case for object handling interventions in clinical settings. There may be an ethical imperative to subject object handling interventions in healthcare settings to the same scrutiny as other

interventions in clinical settings though Randomised Controlled Trials and Cochrane style review approaches.

Issues pertaining to the processes of engagement were brought into clear focus by three included studies (Lynch, 2011; Nevell, 2015; Johnston and Marwood, 2017). Lynch (2011), for example, described engagement within heritage institutions as often being 'empowerment light', or tokenistic. Despite much attention and apparent effort being dedicated to the engagement of communities in the design and delivery of interventions in communities, recent reviews (e.g. Whitehead et al., 2014; Pennington et al, 2018) have found that community engagement practice often falls short of empowering participants, and when they are empowered wellbeing-related impacts are rarely evaluated (Pennington et al., 2017). Comprehensive community engagement strategies and resources are needed to support empower-based interventions and to ensure that the examples of good practice observed by Lynch (2011) become more widespread. Staff and participants require training, and adequate resources are needed to remove barriers and facilitate the meaningful involvement of all groups at every stage of decision-making. Further information and recommendations for practice can be found in Pennington et al., 2018.

It is important to acknowledge that the limitations identified here are common in research on complex social determinants of wellbeing. We are, however, reminded of Doug Altman's famous conclusion (on the state of medical research):

'we need less research, better research, and research done for the right reason' (Altman, 1994).

In the context of research on complex social determinants of wellbeing and related interventions, '***better research***' would involve higher quality methodological designs, more longitudinal research (linking data on individuals across time), larger numbers of participants, random selection of participants, use of control/comparator groups, routine investigation of adverse impacts, higher quality reporting, tackling gaps in coverage (by topic, population groups, geographical areas and settings), and an explicit focus on the distribution of impacts (inequalities). '***Research done for the right reasons***' could be achieved through a coordinated and systematic approach to wellbeing research across the heritage sector that draws on the resources of all stakeholders, including policy makers, funders, researchers, practitioners, and community groups.

We must also acknowledge that there are potential barriers to the use of some higher quality methodological approaches in community settings, for example, standardisation of approaches may be inappropriate when community interventions are deliberately tailored to suit the contexts of communities, or where the interventions are designed and led by community groups; or it may be impractical to establish and maintain experimental and control groups amongst transitory populations. A coordinated approach to future research could also tailor methodological approaches to context.

Recommendations

To encapsulate and address current limitations, and to move this body of evidence forward, we make four overarching recommendations:

1. Develop an empirically-based conceptual framework for understanding community wellbeing in the context of heritage and use this framework to underpin future research.
2. *Meaningfully* empower communities to help shape the nature of heritage policies and interventions.
3. View the impacts or heritage places and assets through an inequalities lens that focusses attention on positive and negative impacts and the distribution of impacts within and across population groups.
4. Develop a systematic and coordinated approach to raising the methodological quality of the evidence-base over time and involving all stakeholders.

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6. Appendices

Appendix 1 - Search strategy examples

1. MEDLINE, MEDLINE In Process & Other non-indexed citations - Via Ovid

1	(Heritage or historic*).ti,ab.
2	((well-being or wellbeing or "quality of life" or happiness or satisfaction or isolation or belonging or fulfil* or contentment or "self-esteem" or participation or engagement or involvement or loneliness or capabilit* or wellness or health*) ADJ3 (impact* or effect* or evaluat* or assess* or apprais*)).ti,ab.
3	OR 1-2
4	Limit #3 to English language and dates 1990-present day

2. Social Science Citation Index - Via Web of Science

1	TS=(Heritage or historic*)
2	TS=((well-being or wellbeing or "quality of life" or happiness or satisfaction or isolation or belonging or fulfil* or contentment or "self-esteem" or participation or engagement or involvement or loneliness or capabilit* or wellness or health*) NEAR/3 (impact* or effect* or evaluat* or assess* or apprais*))
3	OR 1-2
4	Limit #3 to English language and dates 1990-2017

Appendix 2 – Advanced Google Search

The advanced Google search (www.google.co.uk/advanced_search) was searched using the on-site search-engine with search terms (heritage OR history OR historical) AND (well-being OR wellbeing OR "quality of life" OR happiness OR satisfaction OR isolation OR belonging OR fulfilment OR contentment OR self-esteem OR participation OR engagement OR involvement OR loneliness OR wellness OR health).

The results of the first ten pages are listed below. Pages 11-21 were then scanned for possible inclusion.

Item	Webpage title	URL
1.	Historic England. Heritage and Wellbeing (pdf). Ref: Fujiwara D, Cornwall, T and Dolan, P. Heritage and Wellbeing. Swindon: English Heritage; 2014.	https://content.historicengland.org.uk/content/heritage-counts/pub/2190644/heritage-and-wellbeing.pdf
2.	Global Wellness Institute. The history of Wellness.	www.globalwellnessinstitute.org/history-of-wellness/
3.	TATE. Health, well-being and cultural heritage: research, evidence and practice. Tate modern, 12 September 2017.	www.tate.org.uk/research/collection-care-research/nhsf-health-wellbeing
4.	Harvard Business Review. The business of happiness.	https://hbr.org/2012/01/the-history-of-happiness
5.	Heritage Beauty and Wellbeing Centre.	www.heritagewellbeing.co.uk/pages/18/The_Centre/
6	University College London. Centre for Critical Heritage Studies. Heritage and Wellbeing.	www.ucl.ac.uk/critical-heritage-studies/heritage-and-wellbeing
7.	The Guardian. Audience engagement in arts and heritage. The traps we fall in to.	www.theguardian.com/culture-professionals-network/culture-professionals-blog/2014/oct/06/audience-engagement-arts-heritage-traps
8.	Taylor and Francis online. Ander E, Thomson L, Noble G, Lanceley A, Menon U, Chatterjee H. Heritage, health and well-being: assessing the impact of a heritage focused intervention on health and well-being. International Journal of Heritage Studies. 2013 May 1;19(3):229-42.	www.tandfonline.com/doi/abs/10.1080/13527258.2011.651740
9.	Heritage Health. Private Medical insurance.	www.heritagehealth.co.uk/
10.	Heritage Health Care.	www.heritagehealthcare.co.uk/
11.	OECD Insights. Debate the issues. Mapping the history of wellbeing.	http://oecdinsights.org/2014/10/02/mapping-the-history-of-wellbeing/
12.	JSTOR. Health and History.	www.jstor.org/journal/healthhist
13.	The pursuit of happiness. Bringing the science of happiness to life.	www.pursuit-of-happiness.org/history-of-happiness/

14.	Heritage Open Days. Health, heritage and wellbeing.	www.heritageopendays.org.uk/news-desk/news/health-heritage-and-wellbeing
15.	Heritage Health.	www.heritagehealth.co.uk
16.	Amazon. Book: A history of loneliness by John Boyne.	www.amazon.co.uk/History-Loneliness-John-Boyne/dp/0857520946
17.	Amazon. Audio book: A history of loneliness by John Boyne.	www.amazon.co.uk/History-Loneliness-John-Boyne/dp/1501220322
18.	Heritage Wellness, LLC-Nutritional Therapy and Wellness Coaching.	'Not Secure' security warning on page – no details of heritage wellness.
19.	About : Heritage Wellness, LLC-Nutritional Therapy and Wellness…	'Not Secure' security warning on page – no details of heritage wellness.
20.	Wikipedia. Self-esteem.	https://en.wikipedia.org/wiki/Self-esteem
21.	Centre for History in Public Health, London School of Hygiene and Tropical Medicine.	http://history.lshtm.ac.uk/
22.	University of Leeds. Faculty of Arts, humanities and culture, School of History. MA in History, Medicine and Society.	www.leeds.ac.uk/arts/info/125020/masters_courses
23.	Wikipedia. Self-esteem.	https://en.wikipedia.org/wiki/Self-esteem
24.	Wikipedia. Engagement ring.	https://en.wikipedia.org/wiki/Engagement_ring
25.	The Free Dictionary. Health history.	https://medical-dictionary.thefreedictionary.com/health+history
26.	Yes! Magazine. A History of Happiness.	www.yesmagazine.org/happiness/a-history-of-happiness
27.	Nebraska Department of Health and Human Services. Heritage Health. Nebraska Medicare managed care is now Heritage Health!	http://dhhs.ne.gov/medicaid/Pages/med_medcontracts.aspx
28.	St Vincent. Heritage Employee Wellness Center. Heritage Wellness Center.	www.hgwellnesscenter.com/
29.	NCBI Resources. Journal of Epidemiology and Public Health. Perdiguero E, Bernabeu J, Huertas R, Rodríguez-Ocaña E. History of health, a valuable tool in public health. Journal of Epidemiology & Community Health. 2001 Sep 1;55(9):667-73.	www.ncbi.nlm.nih.gov/pmc/articles/PMC1731976/
30.	Heritage Lottery Fund. Heritage and positive mental health. Blog: Liz Ellis.	www.hlf.org.uk/about-us/news-features/heritage-and-positive-mental-health
31.	Readers Digest. Here's the real reason we propose with engagement rings.	www.rd.com/advice/relationships/history-of-engagement-rings/
32.	Kaggle. Heritage Health Prize.	www.kaggle.com/c/hhp
33.	University of London. History and Health: module.	https://london.ac.uk/courses/history-and-health
34.	The Irish Times. New novel brings John Boyne closer to home: a history of loneliness.	www.irishtimes.com/culture/books/new-novel-brings-john-boyne-closer-to-home-a-history-of-loneliness-1.1949366
35.	The Washington Independent Review of Books. Book Review in fiction: a history of loneliness by John Boyne.	www.washingtonindependentreviewofbooks.com/index.php/bookreview/a-history-of-loneliness
36.	Heritage Health. Coeur d'Alene.	https://myheritagehealth.org/our-locations/coeurdalene/
37.	Amazon (US). A history of loneliness by John Boyne	www.amazon.com/History-Loneliness-John-Boyne/dp/1501220322
38.	Heritage Health Insurance TPA PVT Ltd.	http://heritagehealthtpa.net/

39.	BBC Bitesize history: public health.	www.bbc.co.uk/bitesize/standard/history/1830_1930/public_health/revision/1/
40.	Heritage Alliance	www.theheritagealliance.org.uk/update/heritage-counts-levels-of-participation-and-wellbeing/
41.	Oxford Academic. Health Promotion International. Tountas Y. The historical origins of the basic concepts of health promotion and education: the role of ancient Greek philosophy and medicine. Health promotion international. 2009 Mar 19;24(2):185-92.	https://academic.oup.com/heapro/article/24/2/185/568653
42.	Facebook. Heritage Health. Coeur d'Alene, Idaho.	www.facebook.com/myheritagehealth/
43.	Eventbrite. Health, well-being and cultural heritage: research, evidence and practice. Event Ended.	www.eventbrite.co.uk/e/health-well-being-and-cultural-heritage-research-evidence-and-practice-tickets-36488663575
44.	Institute of Health Visiting. History of health visiting.	https://ihv.org.uk/about-us/history-of-health-visiting/
45.	Heritage Health. Therapy & Senior care. Bloomington.	www.heritageofcare.com/bloomington
46:	National Heritage Board. Grants.	www.nhb.gov.sg/what-we-do/our-work/community-engagement/grants/grants/heritage-participation-grant
47.	Heritage on Health 1989. The New York Times.	https://krugman.blogs.nytimes.com/2017/07/30/heritage-on-health-1989/
48.	Crain's. New York Business. Harlem-based non-profit loses housing contract amid chaos and mismanagement.	www.crainsnewyork.com/article/20171017/HEALTH_CARE/171019884/harlem-based-nonprofit-heritage-health-and-housing-loses-housing-contract-amid-chaos-and-mismanagement
49.	World Health Organization. African Health History.	www.who.int/global_health_histories/seminars/africa/en/
50.	The history of the diamond as an engagement ring.	www.americangemsociety.org/page/diamondasengagement
51.	The Medical Journal of Australia. Dyke T and Anderson WP. A history of health and medical research in Australia. Med J Aust 2014; 201(suppl 1):ss33-36.	www.mja.com.au/journal/2014/201/1/history-health-and-medical-research-australia
52.	Institute of Museum and Library Services. Heritage Health Index – full report.	www.imls.gov/publications/heritage-health-index-full-report
53.	Gateway to Research. Heritage, health and wellbeing – Mapping future priorities and potential.	http://gtr.rcuk.ac.uk/projects?ref=AH%2FJ500700%2F1
54.	Social history of Health and healthcare. Glasgow Caledonian University.	www.gcu.ac.uk/research/researchcentres/socialhistoryofhealthhealthcare/
55.	Our heritage of health. Living a simple, old fashioned life in a modern world.	www.ourheritageofhealth.com/
56.	Heritage Health Care. Skilled Nursing by Americare	www.americareusa.net/skilled_nursing_facility/Chanute_KS/zip_66720/americare/1349
57.	Wellness Inventory. A Brief History of Wellness.	www.mywellnesstest.com/certResFile/BriefHistoryofWellness.pdf
58.	Heritage Inn: Health and rehabilitation.	www.heritageinnhealth.org/

59	Is Heritage good for your health? Event. University of Birmingham. 28/11/2017.	www.birmingham.ac.uk/schools/historycultures/departments/ironbridge/events/2017/Is-Heritage-good-for-your-health.aspx
60.	Glasgow city Heritage Trust	www.glasgowheritage.org.uk/heritage-health/
61.	Churches Conservation Trust. Guest blog. The relationship between heritage and health.	www.visitchurches.org.uk/what-we-do/blog/the-relationship-between-heritage-and-health.html
62.	Boston.com. A Historical look at healthcare legislation.	http://archive.boston.com/news/nation/washington/articles/2010/03/21/a_historical_look_at_health_care_legislation/
63.	Michael Rucker.com. Tthe Interesting history of workplace wellness.	https://michaelrucker.com/workplace-wellness/the-history-of-workplace-wellness/
64.	Heritage Home Health and Hospice	www.heritagehealthservices.net/
65.	The Heritage Foundation. Healthcare reform.	www.heritage.org/health-care-reform
66.	Archaeology Out There. Local Heritage Engagement Network	http://new.archaeologyuk.org/local-heritage-engagement-network/
67.	Heritage Health and Housing	http://heritagenyc.org/services.php
68.	UIC. A brief history of health informatics.	https://healthinformatics.uic.edu/resources/articles/a-brief-history-of-health-informatics/
69.	History of health and social care. Thane, P.	www.kcl.ac.uk/sspp/policy-institute/scwru/swhn/pthane5dec11swhn.pdf
70.	History of Health MA. University of California.	https://graduate.ucsf.edu/programs/history-ma
71.	Archivists and Librarians in the History of the Health Sciences.	www.alhhs.org/
72.	Heritage Health Systems. LinkedIn.	www.linkin.com.company/heritage-health-systems
73.	Nursing in Practice. The history of health visiting.	www.nursinginpractice.com/article/history-health-visiting
74.	Interactions. Family Health Heritage.	http://interactions.acm.org/archive/view/january-february-2013/family-health-heritage
75.	Springer. Book. The pursuit of human well-being. Estes R and Sirgy J.	www.springer.com/gp/book/9783319391007
76.	Brighter Futures Together. Encourage participation in your local heritage.	www.brighterfuturestogether.co.uk/brighter-futures-together-toolkit/encourag-participation-in-your-local-heritage/
77.	Global History of Health	Webpage nor working properly. Not secure.
78.	Harry Winston. History of the engagement ring.	www.harrywinston.com/en/history-engagement-ring
79.	Heritage Health Index. A public trust at risk. The Heritage Health Index Report on the State of America's collections.	http://resources.conservation-us.org/hhi/
80.	Heritage Behavioral Health Centre: Job opportunities.	www.heritagenet.org/jobs
81.	Brides. You'll never guess the history behind the engagement ring.	www.brides.com/story/history-of-the-engagement-ring
82.	Trip Advisor. Heritage beauty and Wellbeing.	www.tripadvisor.co.uk/Attraction_Review-g186383-d10792948-Reviews-Heritage_Beauty_Wellbeing-Bury_St_Edmunds_Suffolk_East_Anglia_England.html
83.	Google Books. Oral history, health and welfare. By Bornat J (ed).	https://books.google.co.uk
84.	United Healthcare Community Plan	www.uhccommunityplan.com/ne/medicaid/heritage-health.html
85.	Future Learn. Online course: a history of public health in post-war Britain.	www.futurelearn.com/courses/public-health-history

86.	Norfolk County Council. Health, heritage and biodiversity walks	www.norfolk.gov.uk/out-and-about-in-norfolk/norfolk-trails/short-and-circular-walks/health-heritage-and-biodiversity-walks
87.	Oldways. African heritage and health,	https://oldwayspt.org/programs/african-heritage-health
88.	Warwick. The Library: Modern Records Centre. Research guides: history of health and work.	https://warwick.ac.uk/services/library/mrc/explorefurther/subject_guides/healthandwork/
89.	CDC One health: timeline.	www.cdc.gov/onehealth/basics/history/index.html
90.	The Australian government: Department of Health. History of the Department.	www.health.gov.au/internet/main/publishing.nsf/Content/health-history.htm
91.	Greater Manchester Services. Great Place – Culture, Heritage and Health Manager. Job Description.	https://gmfrsjobs.engageats.co.uk/ViewVacancyV2.aspx?enc=mEgrBL4XQK0+ld8aNkwYmP901RyFjMVXFRSv7+IS84kx7ourJnLG6VIMGNBo5g1R3nN8bi/zngktZ2aRNVaIWCPwNjwv0rIDcICyYdYxLtmWBbuuu7C1kTQ3mG8Xk2C6ZFOSx+nVk/Ptz4lTcp+ZDQ==
92.	Heritage Valley Health system. Career Opportunities	www.heritagevalley.org/pages/career-opportunities
93.	CNN Politics. A short American history: from Medicare to Obamacare to… Bernicare?	https://edition.cnn.com/2017/09/13/politics/history-of-us-health-care/index.html
94.	Health Careers. A brief history of public health.	www.healthcareers.nhs.uk/career-planning/resources/brief-history-public-health
95.	Heritage Health Solutions: contact.	www.heritagehealthsolutions.com/contact-us
96.	Heritage. Good Health Naturally.	www.heritagehealthproducts.com/
97.	Heritage Health services	https://wihhs.com/
98.	Heritage Health Club. Christchurch	http://heritagehealthclub.co.nz/
99.	Heritage Health Care and Rehab.	http://heritagehealthcareandrehab.com/
100.	Companies House. Heritage Health Limited.	https://beta.companieshouse.gov.uk/company/08482958

Google results pages 11-21 were also screened based on the titles and information on the search pages. Five sources/pages were included for further examination/screening (shown below).

Item	**Webpage**	**URL**
101. p.12	Power A, Smyth K. Heritage, health and place: The legacies of local community-based heritage conservation on social wellbeing. Health & place. 2016 May 1;39:160-7.	www.sciencedirect.com/science/article/pii/S1353829216300235
102. p.12	Arts, Health and Wellbeing. Creative heritage in mind	www.artshealthandwellbeing.org.uk/case-studies/creative-heritage-in-mind
103. p.13	Power A, Smyth K. Heritage, health and place: The legacies of local community-based heritage conservation on social wellbeing. Health & place. 2016 May 1;39:160-7.	www.sciencedirect.com/science/article/pii/S1353829216300235
104. p.13	Arts, Health and Wellbeing. Creative heritage in mind	www.artshealthandwellbeing.org.uk/case-studies/creative-heritage-in-mind
105.	RSA. Heritage as a vehicle for community engagement.	www.thersa.org/discover/publications-and-articles/rsa-blogs/2015/04/heritage-as-a-vehicle-for-community-engagement

Appendix 3 – reasons for excluding studies at full-text screening stage

Nº	Study	Reason for exclusion
1.	Ander Erica, Thomson Linda, Noble Guy, Lanceley Anne, Menon Usha, and Chatterjee Helen. (2011) Generic well-being outcomes: towards a conceptual framework for well-being outcomes in museums. Museum Management and Curatorship, 26: 237-259.	Not primary evidence (e.g., a review or guide)
2.	AS Carnwath JD, and Brown. (2017) Understanding the value and impacts of cultural experience: a literature review. Manchester: Arts Council England.	
3.	Association Historic Houses. (2010) Inspirational Places – the value of Britain's historic houses. London: Historic Houses Association	
4.	Balshaw et al. (Undated) How museums and galleries can enhance health and wellbeing. Manchester: Health and Culture.	
5.	Burns Owens Partnership (BOP) Consulting. New directions in social policy: developing the evidence base for museums, libraries and archives in England. London: Museums, Libraries and Archives Council; 2005	
6.	Camic P M, and Chatterjee H J. (2013) Museums and art galleries as partners for public health interventions.	
7.	Chatterjee Helen J, Camic Paul M, Lockyer Bridget, and Thomson Linda J. M. (2017) Non-clinical community interventions: a systematised review of social prescribing schemes. Arts & Health: 1-27.	
8.	Chatterjee Helen J; Camic Paul M (2015) The health and well-being potential of museums and art galleries. Arts & Health, 7: 183-186.	
9.	Clift S. Creative arts as a public health resource: Moving from practice-based research to evidence-based practice. Perspectives in Public Health 2012; 132: 120–7	
10.	Court, and Wijesuriya . (2015). People-centred approaches to the conservation of cultural heritage: living heritage. Rome: International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM).	
11.	Cultural Heritage Counts for Europe Consortium. (2015) Cultural Heritage Counts for Europe Consortium. Krakow: CHCfE.	
12.	de Jong, Kim , Albin Maria, Skarback Erik, Grahn Patrik, and Bjork Jonas. (2012) Perceived green qualities were associated with neighborhood satisfaction, physical activity, and general health: results from a cross-sectional study in suburban and rural Scania, southern Sweden. Health & Place, 18: 1374-80.	
13.	de la Torre, M., ed. Assessing the values of cultural heritage. Research report. Los Angeles: The Getty Conservation Institute	
14.	Dümcke, C. & Gnedovsky, M., 2013. The social and economic value of cultural heritage: literature review. European Expert Network on Culture.	
15.	Froggett L, Farrier A, Poursanidou K, Hacking S, and Sagan O. (2011) Who cares? Museums, health and wellbeing research project. Preston: University of Central Lancashire.	
16.	Graham H, Mason R, and Newman A. (2009) Literature review: Historic environment, sense of place, and social capital. Newcastle: International Centre for Cultural and Heritage Studies.	

17.	Hemingway, and Crossen-White . (2014) Arts in Health: a review of the evidence. Bournemouth: Bournemouth University.	
18.	Historic England. (2017) Heritage Counts: heritage and society 2017. London: Historic England.	
19.	Jermyn, H 2001, The arts and social exclusion: a review prepared for the Arts Council of England, ACE, London.	
20.	Johnson, A. (2008) Open to All: Mental health, social inclusion and museums and galleries. London: The Wallace Collection.	
21.	Landorf, C., 2011. Evaluating social sustainability in historic urban environments. International Journal of Heritage Studies, 17(5): 463-477.	
22.	M O'Neill. (2010) Cultural attendance and public mental health - from research to practice. Journal of Public Mental Health, 9: 22-29.	
23.	Maeer G, Robinson A, and Hobson M. (2016) Values and benefits of heritage. A research review. London: Heritage Lottery Fund.	
24.	McDonald, H. (2011) Understanding the antecedents to public interest and engagement with heritage. European Journal of Marketing, Volume 45, Issue 5, Pages. 780-804.	
25.	Morris Hargreaves McIntyre. (2002) Developing new audiences and promoting social inclusion. National Museums and Galleries of Wales.	
26.	Neal Cath. (2015) Know your place? Evaluating the therapeutic benefits of engagement with historic landscapes. Cultural Trends, 24: 133-142.	
27.	Reeves, M., 2002. Measuring the economic and social impact of the arts: a review. London: The Arts Council of England.	
28.	Scott C, Dodds J, S, and ell R. (2014) Cultural value. User value of museums and galleries: a critical view of the literature. Leicester: Research Centre for Museums and Galleries.	
29.	Solway R, Camic PM, Thomson LJ, and Chatterjee HJ. (2016) Material objects and psychological theory: A conceptual literature review. Arts & Health., 8: 82-101.	
30.	Taylor P, Davies L, Wells P, Gilbertson J, and Tayleur. (2015) A review of the social impacts of culture and sport. London: Department for Culture, Media and Sport.	
31.	Thomson Linda J, Ander Erica E, Menon Usha, Lanceley Anne, and Chatterjee Helen J. (2011) Evaluating the therapeutic effects of museum object handling with hospital patients: A review and initial trial of well-being measures. Journal of Applied Arts & Health, 2: 37-56.	
32.	Whelan Gayle. (2015) Understanding the social value and well-being benefits created by museums: A case for social return on investment methodology. Arts & Health, 7: 216-230.	
33.	Young, R., Camic, P. & Tischler, V. (2016) The Impact of Community-based Arts and Health Interventions on Cognition in People with Dementia: A systematic literature review. Aging & Mental Health, 20 (4): 337.	
34.	Bria R, and Carranza C. (2015) Making the Past Relevant Co-Creative Approaches to Heritage Preservation and Community Development at Hualcayán, Ancash, Peru. Advances in Archaeological Practice, 3: 208-222.	Not OECD setting
35.	Allin P. (2015) Healthy attendance? The impact of cultural engagement and sports participation on health and satisfaction with life in Scotland. Cultural Trends, 24: 202-204.	Not empirical (e.g. opinion or discussion only)
36.	Ander, E. E., Thomson, L. J., Noble, G., Lanceley, A., Menon, U., & Chatterjee, H. J. (2011) Heritage in health: A guide to using museum collections in hospital and other healthcare settings. London: University College London.	

37.	Belfiore, E. (2010) Art as a means of alleviating social exclusion: Does it really work? A critique of instrumental cultural policies and social impact studies in the UK. International Journal of Cultural Policy, 8, 91–106. doi:10.1080/102866302900324658	
38.	Belfiore, Eleonora, and Oliver Bennett. 2007. 'Determinants of Impact: Towards a Better Understanding of Encounters with the Arts.' Cultural Trends 16:3. 225-275.	
39.	Black, G. (2010) Embedding civil engagement in museums. Museum Management and Curatorship, 25, 129–146. doi:10.1080/09647771003737257	
40.	Historic Royal Palaces. (2015) Sensory Palaces. Retrieved from http://www.hrp.org.uk/KensingtonPalace/educationandcommunity/Adultlearning/sensory-palaces	
41.	Holden, J 2006, Cultural Value and the crisis of legitimacy: Why culture needs a democratic mandate. London: Demos.	
42.	Hooper-Greenhill, E. (2004) Measuring learning outcomes in museums, archives and libraries: The Learning Impact Research Project (LIRP). International Journal of Heritage Studies, 10, 151–174.	
43.	Neelands, J., Belfiore, E., Firth, C., Hart, N., Perrin, L., Brock, S., & Woddis, J. (2015) Enriching Britain: Culture, creativity and growth. Warwick: University of Warwick.	
44.	Sandell R. Museums as agents of social inclusion. Museum Management and Curatorship 1998; 17: 401–18	
45.	Winterton, S. (2014) From army medical centre to operation Nightingale: My entry to archaeology. Journal of Community Archaeology and Heritage, 1(3): 245–247.	
46.	Bagnall, G. (2003) Performance and performativity at heritage sites, in Museum and Society, 1(2):87-103	Not community wellbeing outcomes
47.	Falk M, and Katz-Gerro T. (2016) Cultural participation in Europe: Can we identify common determinants? Journal of Cultural Economics, 40: 127-162.	
48.	Halu Zeynep Yazıcıoğlu, and Küçükkaya Ayşe Gülçin. (2016) Public Participation of Young People for Architectural Heritage Conservation. Procedia - Social and Behavioral Sciences, 225: 166-179.	
49.	Heritage Lottery Fund. (2016) State of UK public parks 2016. Research report. London: Heritage Lottery fund.	
50.	Jensen O, Li Y, and Uysal M. (2017) Visitors' satisfaction at managed tourist attractions in Northern Norway: Do on-site factors matter? Tourism Management, 63: 277-286.	
51.	Kim Kyoung Jin. (2007) Visitor interpretation and sustainable tourism: A study of the role of interpretation in influencing attitudes and behaviour toward environmental conservation. University of Surrey (United Kingdom).	
52.	Baird, L. & Greenaway, L. (2009) Volunteering in museums. A research study into volunteering within museums. Full report. Museums Galleries Scotland.	Full text unavailable
53.	National Association of Arts, Health, and Wellbeing. (Undated) Creative Heritage in Mind.	
54.	Abraham A, Sommerhalder K and Abel, T. Landscape and well-being: a scoping study on the health-promoting impact of outdoor environments. International Journal of Public Health 55(1): 59–69. (2010)	Not a study of historic places and assets
55.	Angus, J. (2002) A review of evaluation in community based arts for health activity in the UK, Durham: Centre for Arts and Humanities in Health and Medicine, University of Durham.	
56.	Association Museums. (2017) Museums Change Lives. London: Museums Association.	
57.	Bryant W, Wilson L, and Lawson J. (2010) Ways of seeing evaluation. Brunel University.	
58.	Buck, D. (2016) Gardens and Health: Implications for policy and practice. London: The King's Fund.	

59.	Bungay, H. and Clift, S. 2010. Arts on prescription: a review of practice in the UK. Perspectives in public health. 130 (6): 277-281.	
60.	Bungay, H. and Vella-Burrows, T., 2013. The effects of participating in creative activities on the health and well-being of children and young people: a rapid review of the literature. Perspectives in Public Health, 133(1): 44-52.	
61.	Bygren, L. O., Johnsson, S. E., Konlaan, B. B., Grjibovski, A. M., Wilkinson, A. V. and Sjostrom, M. (2009a) 'Attending cultural events and cancer mortality: A Swedish cohort study', Arts & Health: An International Journal for Research, Policy and Practice, 1: 1: 64–73.	
62.	Callard, F., & Friedli, L. (2005) Imagine East Greenwich: Evaluating the impact of the arts on health and wellbeing. Journal of Public Mental Health, 4, 29–41. doi:10.1108/17465729200500029	
63.	Cameron, M., Crane, N., Ings, R. & Taylor, K. (2013) Promoting Well-being Through Creativity: how arts and public health can learn from each other. Perspectives in Public Health, 133 (1):52.	
64.	Cohen GD, Perlstein S, Chapline J, Kelly J, Firth KM, Simmens S. The impact of professionally conducted cultural programs on the physical health, mental health, and social functioning of older adults. The Gerontologist 2006; 46:726–34	
65.	Cuypers K, Krokstad S, Holmen TL, Knudtsen MS, Bygren, LO, Holmen J. Patterns of receptive and creative cultural activities and their association with perceived health, anxiety, depression and satisfaction with life among adults: The HUNT study, Norway. Journal of Epidemiology and Community Health 2012; 66: 698–703	
66.	Davies M, and Heath C. (2013) Evaluating evaluation: increasing the impact of summative evaluation in museums and galleries. London: King's College London.	
67.	DCMS. (2010) The Culture White Paper. London: Department for Media Sport and Culture.	
68.	Dines, N. and V. Cattell with W. Gesler and S. Curtis (2006) Public spaces, social relations and well-being in East London. Joseph Rowntree Foundation	
69.	Friedli L, Jackson C, Abernethy H & Stansfield J (2009) Social Prescribing for Mental Health – A guide to commissioning and delivery. London: Care Services Improvement Partnership.	
70.	Friedli, L. (2007) Developing social prescribing and community referrals for Mental Health in Scotland. Edinburgh: Scottish Development Centre for Mental Health	
71.	Galloway S., Bell, D., Hamilton, C. and Scullion, A. (2006) Quality of Life and Wellbeing: Measuring the Benefits of Culture and Sport: Literature Review and Thinkpiece. Edinburgh, Scottish Executive Education Department.	
72.	Glasgow Centre for Population Health. (2013) The built environment and health: an evidence review. Concept Series 11 - Briefing Paper. : Glasgow Centre for Population Health.	
73.	Griffiths, S. (2002) The mental health benefits of arts and creativity for African and Caribbean young men. Mental Health Review Journal, 10, 27–31.	
74.	Grossi, E., Blessi, G T., Sacco, P L., Buscema, M. (2012) The interaction between culture, health and psychological wellbeing: Data mining from the Italian culture and wellbeing project. Journal of Happiness Studies, Volume 13, Issue 1, Pages 129-148.	
75.	Hacking, S., Secker, J., Spandler, H., Kent, L., & Shenton, J. (2008) Evaluating the impact of participatory art projects for people with mental health needs. Health & Social Care in the Community., 16, 638–648. doi:10.1111/j.1365-2524.2008.00789	

76.	Hampshire, K.R. and Matthijsee, M., 2010. Can arts projects improve young people's wellbeing? A social capital approach. Social science and medicine, 71:708-716.	
77.	Hannemann, B. T., 2006. Creativity with dementia patients. Can creativity and art stimulate dementia patients positively? Gerontology, 52 (1): 59-65.	
78.	Harper S, and Hamblin K. (2010) 'This is living'. Good times: art for older people at Dulwich Picture Gallery. Oxford: University of Oxford.	
79.	Husk, K., Lovell, R., Cooper, C., & Garside, R. (2013) Participation in environmental enhancement and conservation activities for health and well-being in adults.	
80.	Ings, R., Crane, N. & Cameron, M. (2012) Be Creative Be Well: arts, wellbeing and local communities – an evaluation. London: Arts Council England.	
81.	Jenson, A. (2002) Identifying the links: Social cohesion and culture. Canadian Journal of Communication, 27, 141–151.	
82.	Koivusilta LK. (2017) Country-Level Investment in Cultural Opportunity Structures. A Potential Source of Health Differences Between 21 European Countries. Social Indicators Research: 1-28.	
83.	Leckey, J., 2011. The therapeutic effectiveness of creative activities on mental well-being: a systematic review of the literature. Journal of Psychiatric and Mental Health Nursing, 18 (6): 501-509.	
84.	Mapes N, Milton S, Nicholls V, and Williamson T. (2016) Is it Nice Outside? - Consulting people living with dementia and carers about engaging with the natural environment. London: Natural England.	
85.	Morse Nuala, and Chatterjee Helen. (2017) Museums, health and wellbeing research: co-developing a new observational method for people with dementia in hospital contexts. Perspectives In Public Health, 138 (3):152-159.	
86.	Mowlah A, Niblett V, Blackburn J, and Harris M. (2014) The value of arts and culture to people and society. An evidence review. Manchester: Arts Council England.	
87.	Murzyn-Kupisz M, and Działek J. (2013) Cultural heritage in building and enhancing social capital. Journal of Cultural Heritage Management and Sustainable Development, 3: 35-54.	
88.	National Institute for Health & Welfare. (2014) Arts and culture for well-being in Finland. Retrieved from: https://www.thl.fi/en/web/thlfi-en/research-and-expertwork/projects-and-programmes/arts-andculture-for-well-being	
89.	Natural England. (2009) Our Natural Health Service: The role of the natural environment in maintaining healthy lives. Sheffield: Natural England.	
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