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Valuing the health and wellbeing aspects of community empowerment in an urban regeneration context using economic evaluation techniques

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(MA Hons, MSc)

Submitted in fulfilment of the requirements for the Degree of Doctor of Philosophy (PhD)

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Abstract

Background and Rationale

Urban regeneration programmes are well placed to address social inequalities, and improve residents' quality of life and thus, are increasingly regarded a form of population health intervention. Within such programmes, the central role of communities is becoming increasingly recognised as important, with policy makers highlighting the need for activities that foster community empowerment and community involvement in programmes' delivery. A motivating factor for this emphasis on community empowerment is the envisaged health gains it can produce. Existing literature has demonstrated that community empowerment is linked to positive health (specifically mental health) however, little is known about this link within an urban regeneration context and the value of allocating resources to foster community empowerment as an outcome of urban regeneration programmes. Previous attempts to value community empowerment as an outcome of urban regenerations have failed to fully capture and measure this complex, multi-faceted outcome or its theorised links to health. This thesis crosses disciplines, addressing issues of public health, urban planning and health economics. However, as outlined in Chapter 1, its leading discipline is health economics, drawing on methodology from the field to make a contribution to the evolving focus of public health economic evaluation. Specifically, the thesis demonstrates how health economic methodology can be adapted or expanded upon to aid the challenges researchers face when trying to identify, measure and value complex, non-health outcomes (such as community empowerment) for inclusion in economic evaluations of population health interventions (such as urban regeneration), which, as discussed at length in Chapter 5, present numerous challenges for techniques previously used solely within the health sector, and commonly in controlled settings (randomised controlled trials).

Methods

The thesis initially outlines the policy context of the study (community empowerment in urban regeneration), defines what is meant by community empowerment and the study's overall health economics focus in Chapter 1.

Chapter 2 continues this introduction to the study's context by highlighting how community empowerment relates to other concepts, whether it is viewed as an outcome or a process and how this impacts on efforts of measuring the concept and through a rapid scoping review, summarises what is known in the current evidence base on community empowerment and its links to health. It clearly highlights that community empowerment is a context specific concept and that in order to identify, measure and value it within an urban regeneration context, investigation of its specific, quantifiable 'elements' within this context must be identified. This is presented in Chapters 3 and 4. Firstly, a systematic review with narrative synthesis was then conducted (Chapter 3) to identify whether urban regeneration interventions can lead to a sense of empowerment and key community empowerment elements within this context. Then in Chapter 4, analyses of cross-sectional data from Glasgow's GoWell neighbourhoods regeneration study (n=4254) was used to further test the causal relationship between community empowerment and self-reported health. The final part of the thesis (Chapters 5-8), firmly centres these initial findings into the health economics focus of the thesis to demonstrate how discrete choice experiments could be used to value a non-health outcome such as community empowerment for future inclusion in economic evaluations of population health interventions. It outlines the challenges of conducting economic evaluations of population health interventions and the importance of health economics as a discipline for decision-makers (Chapter 5). Then in Chapters 6-8 it presents the conceptualisation, design and results of a UK representative population discrete choice experiment survey (n=311) and how its results can value community empowerment as a potential outcome (using the payment vehicle 'time') for use in economic evaluation of population health interventions within urban regeneration.

Results

The thesis identifies that community empowerment can result from urban regeneration interventions and that there are specific community empowerment 'elements' within this context which can be used to start conceptualising how to measure and value this concept and its links to health. The thesis also demonstrated that this was not always a positive relationship between urban regeneration and community empowerment and that a sense of disempowerment

could be felt by the affected communities. These elements were sense of inclusion, sense of belonging, residents' time commitment, a sense of trust in stakeholders, availability of stakeholder help and support and, availability of information about the regeneration programme (Chapters 2-3). Regression analysis of the GoWell data (Chapter 4) highlighted significant associations between community empowerment and improved general health and mental wellbeing. The discrete choice experiment's (shown in Chapters 6-8) mixed logit model analyses demonstrated that there is an overall value for community empowerment activities within urban regeneration. The general populations respondents strongest preferences were shown for the delivery of community empowerment activities which require less time commitment, offer opportunities to participate, fully explain decision making processes, increase social interactions with their neighbours, have help and support from stakeholders and, keep them informed of the regeneration programme. Respondents' strongest preferences were for delivery of community empowerment attributes that increase sense of belonging and feeling informed about the regeneration programme.

Conclusions

The thesis provides valuations for attributes of community empowerment which can be used to inform future resource allocation decisions related to the cost-effectiveness of community empowerment generating activities as part of the delivery of urban regeneration programmes. Progress on the application of economic evaluation methodology to public health has been challenging, thwarted by complexities due to broad ranging costs and outcomes that are not readily suited to established economic evaluation techniques. The thesis contributes to the growing field of public health economic evaluation by highlighting the use of stated preference techniques, specifically discrete choice experiment methodology as a tool for measuring and eliciting values for the non-health outcomes of population health interventions for inclusion in economic evaluations. Failure to capture and include all benefits or costs of these multi-sector interventions which seek to look beyond health gains could lead to under or over estimation of their value and total effectiveness. This could ultimately result in poor investment decisions.

To conclude, this study has contributed to current evidence by providing a means for identifying, measuring and valuing community empowerment both as an outcome in its own right and as an interim surrogate outcome linked to health. Thus, it has begun to address and tackle the research gaps identified in previous studies (outlined in Section 1.2.2). It has valued individual elements of CE within urban regeneration programmes which can be used by policy makers for decisions regarding future investment in CE and has further evidenced claims that community empowerment is linked to health within this context. Therefore, the thesis is able to recommend investment for community empowerment promoting activities in the delivery of urban regeneration programmes as a pathway to mental health gains.

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Author's Declaration

I declare that, except where explicit reference is made to the contribution of others, that this dissertation is the result of my own work and has not been submitted for any other degree at the University of Glasgow or any other institution.

Signed:

Printed name: Camilla Rose Evatt Baba

Publications, Working Papers and Presentations

The following publications, working papers and presentations are results of the research conducted for this PhD.

Published

Baba, C., Kearns, A., McIntosh, E., Tannahill, C. & Lewsey, J. 2016. Is empowerment a route to improving mental health and wellbeing in an urban regeneration (UR) context? *Urban Studies*. (Published online before print February 2016)

Working papers

Baba, C., McIntosh, E. & Tannahill, C. 2015. Valuing the health and wellbeing aspects of Community Empowerment in Urban Regeneration programmes using economic evaluation techniques; a discrete choice experiment. Health Economists' Study Group, Leeds, January 2015.

Baba, C., McIntosh, E. & Tannahill, C. 2014. Valuing 'empowerment' in an urban regeneration context; a Discrete Choice Experiment (DCE). Health Economists' Study Group, Leeds, June 2014.

Conference Presentations

Baba, C., McIntosh, E. & Tannahill, C. Valuing Community Empowerment in an Urban Regeneration context as a pathway to health gains: a Discrete Choice Experiment. International Conference on Urban Health, San Francisco, April 2016.

Baba, C., McIntosh, E. & Tannahill, C. Empowerment as an alternative pathway to health gains in urban regeneration; findings from the GOWELL study. European Public Health Conference, Glasgow, November 2014.

Baba, C., McIntosh, E. & Tannahill, C. Profiling empowerment as an outcome within an economic evaluation framework of urban regeneration programmes. New Solutions for Housing & Regeneration: Communities, Ownership and Mutuality Centre for Housing Research, St. Andrews, July 2013.

Abbreviations

AVC - Asymptotic Variance-Covariance

CA - Conjoint Analysis

CBA - Cost-Benefit Analysis

CCA - Cost-Consequence Analysis

CDD - Community-driven development

CE - Community Empowerment

CEA - Cost-Effectiveness Analysis

CEP - Cost-Effectiveness Plane

CL - Conditional Logistic Regression

CM - Choice Modelling

CMA - Cost-Minimisation Analysis

CTUR - Centre for Time Use Research

CUA - Cost-Utility Analysis

CV - Contingent Valuation

DALY - Disability-Adjusted Life Year

DCE - Discrete Choice Experiment

EQ-5D - EuroQol Five Dimensions Questionnaire

FFD - Fractional Factorial Designs

GCPH - Glasgow Centre for Population Health

GHA - Glasgow Housing Association

HTA - Health Technology Assessment

ICECAP- ICEpop CAPability measure

ICER - Incremental Cost-Effectiveness Ratio

ISPOR - International Society for Pharmacoeconomics and Outcomes Research

LSHTM - London School of Hygiene & Tropical Medicine

MCDA - Multiple-Criteria Decision Analysis

MMAT - Mixed-Methods Appraisal Tool

MNL - Multinomial Logistic Regression

MRC - Medical Research Council

MXL - Mixed Logit Model

NHS - National Health Service

NICE - The National Institute for Health and Care Excellence

NS - Narrative Synthesis

PE - Personal/Psychological Empowerment

PHI - Population Health Intervention

PTO - Person-Trade-Off

PROGRESS - for Place of Residence, Race/Ethnicity, Occupation, Gender,
Religion, Education, Socioeconomic Status, and Social Capital

QALY - Quality Adjusted Life Year

QoL - Quality of Life

RCT - Randomised Controlled Trial

RP - Revealed Preferences

RUT - Random Utility Theory

SF-12 - Short-Form 12-item survey

SG -Standard Gamble

SP - Stated Preference

SROI - Social Return on Investment

TTO - Time-Trade Off

VAS - Visual Analogue Scale

WEMWBS - Warwick-Edinburgh Mental Well-being Scale

WTP - Willingness To Pay

WTA - Willingness To Accept

Chapter One: Introduction

1.1 Introduction

In 1986 in the Ottawa Charter for Health Promotion, the World Health Organisation (WHO) stated that key to health promotion (the process of enabling people gain control of, and improve, their health) and achieving equitable health is the ‘empowerment of communities’ (WHO, 1986). Community empowerment (CE) was described as vital for successful health promotion action by ensuring communities are central to decision making processes, having “ownership and control of their own endeavours and destinies” (WHO, 1986). This commitment to supporting CE has continually been strengthened and reiterated internationally within key policies such as the 2000 United Nations Millennium Development Goals (UN, 2000) and the World Bank’s 2001 Strategic Framework where it CE outlined as a ‘key pillar’ for fighting against poverty and enabling disadvantaged communities to develop their capabilities and have a strong voice in the development process (WorldBank, 2001). These international efforts have emphasised the necessity of supporting and promoting efforts to empower communities in order for successful progress in tackling growing health inequalities and improving overall wellbeing to be made.

CE has increasingly been placed in the socio- political agenda of governments as a possible mechanism for improving an individual’s health and overall wellbeing. The causal relationship between an individual’s health and wellbeing and the impact of their surroundings has been theorised and evidenced by researchers such as Stafford and Marmot (2003), Macintyre and Ellaway (2000) and Truong and Ma (2006). Such research has helped popularise the perspective of urban regeneration programmes as a type of population health intervention (PHI), well placed to address long-term socio-economic inequalities and deprivation, and improve residents’ quality of life (QoL) (Kearns et al., 2009). These programmes are often the result of multi-sector partnerships, with different priorities and desired outcomes. Yet, increasingly evident in policy is the vital role of communities in the effective delivery of regeneration, as exemplified in the passing of the Community Empowerment (Scotland) Act by the Scottish Parliament on 17th June 2015 (Scottish Government, 2015).

“Urban design and planning are essential elements in how we navigate the social world. This is because urban environments typically constructed for social and cultural reasons, can create health inequalities within the urban landscape [...] urban regeneration is an important public health intervention and that by changing the urban physical, social and economic environment this can facilitate health development for disadvantaged communities” (MacGregor, 2010:38).

1.2 Community Empowerment as an urban regeneration policy objective and outcome

Since the 1970s “the notions of partnership and empowerment have been become ubiquitous in urban regeneration within the UK and more generally in western Europe and the US” (Atkinson, 1999:59). As Dreier (1996) and Colantonio and Dixon (2009) state in their works on urban regeneration policies in America and Europe respectively, there has been an overall trend of urban renewal and regeneration moving away from purely economic and physical aims to those which include a focus on improvements to social and cultural elements of communities wellbeing. Such trends have also been evident within the UK, where, since the 1990s policies have sought to promote a more participatory approach that encourages communities to have a direct impact on the decision making process. This thesis will be conducted within this UK setting (specifically Scotland) as it seeks to value the health and wellbeing aspects of CE in an urban regeneration context using economic evaluation techniques. However it is important to remember that the UK is not alone in its effort to promote the role of communities within urban regeneration and findings of this thesis may be applicable elsewhere.

1.2.1 UK urban regeneration and CE policy setting

In 2003, the initiation of the cross-government ‘Together We Can’ framework under the guidance of Henry Tam (the UK Government’s Head of Civil Renewal and Deputy Director of Community Empowerment Delivery until 2010), the UK government unambiguously introduced CE as a clear policy directive in relation

to how areas and neighbourhoods are maintained when experiencing regeneration. Examples are of this are evident in publications such as ‘Promoting Effective Citizenship and Community Empowerment’ (ODPM, 2006), ‘An Action Plan for Community Empowerment’ (DCLG, 2007) and ‘Communities in Control’ (DCLG, 2008). This commitment was further developed through the Local Government’s White Paper entitled ‘Strong and Prosperous Communities’ (DCLG, 2006).

“Public services are better, local people are more satisfied and communities stronger if involvement, participation and empowerment are at the heart of public service delivery. Enabling people to choose what service they want and who provides it and enabling communities to run their village, estate or neighbourhood does pose challenges. But the experience of the local authorities that are already working in this way shows that it is worth the effort” (DCLG, 2006:45). This policy drive has led to significant investment in CE promoting activities. Yet despite government commitment to a ‘community-led regeneration vision’ and promoting community empowerment (CE) to reduce poverty and inequality, and improve the lives of those in the most disadvantaged areas through placing “the community at the heart of the decision making and involvement throughout” (Scottish Government, 2014a), throughout the UK, similarly to other public sectors, budgets for area regeneration and neighbourhood renewal have been severely curtailed. It is estimated that compared to the £11.189 billion spent in 2009/10 on ‘core’ regeneration programmes (including housing programmes, infrastructure projects and community programmes) only £3.872 billion was spent in 2011/12 (Lupton and Fitzgerald, 2015), a reduction of 66%.

Constraints on public spending across sectors have reinforced the importance of determining whether a proposed programme constitutes best use of scarce resources. It is common practice for bodies such as the National Institute for Health and Care Excellence (NICE) (<https://www.nice.org.uk/>) to conduct economic evaluation techniques of health technologies and in turn inform spending decisions (Fenwick et al., 2013). In 2004, the publication of the second Wanless report, ‘Securing Good Health for the Whole Population’, clearly advocated the need for a more coherent policy framework for securing better

public health (Wanless, 2004). It stated the need for decisions regarding spending on public health strategies and interventions to be aided by economic techniques (in order to determine their cost-effectiveness), in a similar manner to those used previously when conducting evaluations of health care and health technologies. Indeed, the increasing recognition of the opportunity for health gains to be sought from outside the health sector spending and through multi-sector population health initiatives led to NICE's 2005 decision to expand their remit and scope of evaluation to "address issues of resource allocation across all sectors impacting on health" (Fenwick et al., 2013:835).

"Studies in public health often include costs accruing to other sectors of the economy or benefits gained by these sectors" (NICE, 2012b:243).

Such emphasis on the need for economic evaluation and rationale to guide resource allocation for this shift away from solely downstream interventions focussed on individual health behaviours and health risks to upstream PHIs seeking to improve health through a person's living, working and learning environments has been further demonstrated by the World Health Organisation (WHO) Commission on the Social Determinants of Health (CSDH) (CSDH, 2008) (2008). The 2008 CSDH report clearly highlighted that as PHIs look beyond the health sector, to include multiple sectors, there must be more evidence sharing to allow decision-makers to understand and measure the impact of an intervention, thus allowing optimal population health gains and maximum reduction in health inequalities to be secured (CSDH, 2008). Trueman and Anokye (2013) note that this would allow these broader interventions to be established.

"Public health interventions consume health (and other public sector) resources and as such are associated with an opportunity cost. That is, the money spent on public health interventions could be allocated to other healthcare activities and it is important to determine whether public health interventions offer comparable or superior health outcomes for a similar level of expenditure" (Trueman and Anokye, 2013:32).

Progress with the application of economic evaluation methodology to public health however has been slow (Shiell et al., 2008, Kelly et al., 2005). Complex PHIs such as regeneration programmes with broad-ranging and complex costs and outcomes are not readily suited to established economic evaluation techniques such as cost-effectiveness analysis. In their systematic review of economic analysis of the possible health impacts of housing improvement programmes, Fenwick et al. (2013) advise that whilst future economic evaluations of similar interventions could make a significant contribution to future policy decisions, more informed and intuitive planning and design is required. The review demonstrates that previous economic evaluations had been limited by a lack of relevant data being captured and recorded (Fenwick et al., 2013).

1.2.2 Existing economic evaluations of CE in urban regeneration

In 2009, the Department of Communities and Local Government (DCLG) funded the research of a business case, ‘Valuing Community Empowerment’, which aimed to go “beyond merely affirming the importance of community empowerment to ask whether it is possible to relate a certain level of investment in empowerment to a certain level of measurable benefits” (Chanan, 2009:4). This business case was not solely looking at investment in CE as part of urban regeneration, but was a broader study of local and national investments in trying to help promote CE. However, “examining how an empowerment business case might be used in the context of regeneration” (Chanan, 2009:8) was identified as an area that required more exploration.

“Ensuring that local service providers work together even more closely with communities to meet the needs of the people who use them” (Scottish Government, 2015).

The premise is that programmes which help facilitate increased involvement and autonomy over local decisions will give communities a greater sense of local democracy, control and CE. It is envisaged that this increased sense of CE will not only aid the successful delivery of more appropriate and sustainable urban regeneration programmes, but will also improve the health and wellbeing of the affected communities.

In 2009, DCLG commissioned an economic evaluation study to examine how potential benefits of regeneration initiatives may be valued and to provide an initial analytical and conceptual framework for future work on the provision of cost benefit ratios and valuations of these complex forms of interventions (Tyler et al., 2010). The authors reported that the substantial challenge of being able to provide an accurate valuation of all the benefits and outcomes of regeneration, when many reported benefits are not traded in markets or measured using monetary units or are considered ‘indirect’ benefits, was beyond the scope or time horizon of the regeneration programme. Valuing activities which sought to include communities other than narrowly defined volunteering or investment in community organisations was considered beyond the scope of the study. This was due to a lack of necessary evidence to allow for full valuations of their impact and benefit and thus they were excluded. The remaining evidence produced within the study was predominantly qualitative with the authors concluding that “it is difficult to isolate the costs of encouraging participation from the costs of delivering individual regeneration projects” (Tyler et al., 2010:91).

More recently, an evaluation of the New Deal for Communities (NDC) regeneration programme and the health and social impacts of different engagement strategies on communities was funded by the National Institute for Health Research (NIHR) (Popay et al., 2015). This mixed-methods evaluation included a retrospective cost-effectiveness analysis of community engagement conducted as part of the NDC programme. The authors concluded that the wide variation in the type of activities undertaken across the regeneration programme meant “it cannot be assured that all the costs of CE were reported” (Popay et al., 2015:79). As such, the study concluded that, whilst involving communities in regeneration has the potential to lead to health gains, there is a gap in the current evidence base and a need for further research on CE.

“Determining whether or not community empowerment has been achieved by the interventions under study requires the development of better measures of community empowerment/control and influence and ways of measuring the costs and benefits of CE to enable economic evaluation.

The measures available in the secondary data that were available to us were relatively crude and underdeveloped, and revealed an obvious research gap that needs to be filled” (Popay et al., 2015:105).

With further investigation into these studies it becomes clear that there is an evidence gap related to the role and value of CE in urban regeneration. The gaps reflect a current lack of knowledge of exactly how, or what should be termed ‘CE’ within economic evaluations of urban regeneration programmes. This may be due to the fact that CE as an outcome is highly variable depending on the context in which it is being undertaken. This lack of economic evaluation evidence is not unique to urban regeneration programmes. As work by researchers such as Shiell et al. (2008) and Campbell et al. (2000) has shown, researchers have tried to “indicate the problems faced in evaluating the effectiveness of many non-drug interventions” (Shiell et al., 2008:1281) which they deem to be ‘complex’ and subject to extensive variation possibilities (Campbell et al., 2000). This lack of standardisation presents challenges in designing, completing and evaluating the generalisability of interventions (and their widely variable outcomes) to inform future policy recommendations.

A key motivation for the on-going UK-wide policy drive within urban regeneration programmes seeking to facilitate the involvement of affected communities and individuals in shaping the successful delivery of the programmes is the expectation that CE can act as an intermediate outcome leading to future positive impact on residents’ QoL and their overall health and wellbeing (Wanless, 2004, COSLA and Government., 2009, Marmot, 2008).

Policy over the years demonstrates a clear emphasis on CE within the delivery of urban regeneration. However, currently, there is a lack of understanding and guidance on how to measure and value CE as an outcome of urban regeneration programmes for its future inclusion in economic evaluations (Popay et al., 2015). It is this latter evidence gap which this thesis aims to address which is outlined in the following section.

1.3 A Health Economics Thesis

Whilst this thesis is focussed on the topic of urban regeneration and CE, with themes of public health and urban planning, its methods and overall approach is grounded in health economics. As outlined in Sections 1.2.1 and 1.2.2, it has been acknowledged that urban regeneration programmes, as form of PHIs, can address and potentially ameliorate growing health inequalities and improve individuals overall wellbeing. Additionally, the role of empowered communities being central to the success of urban regeneration programmes has been highlighted in policy. However, existing economic evaluations of CE within urban regeneration programmes by both Tyler et al. (2010) and Popay et al. (2015) have been unable to determine how best to measure or value CE and its benefits as part of the delivery of these regeneration programmes. That is, they have not been able to determining the value of investing in CE promoting activities which would help inform whether they represent the best use of available resources for maximum societal outcome.

In their 2012 guidance on methods for assessing PHIs, NICE outline that in order to capture all benefits of PHIs (health, non health and community), that Cost-Consequence Analysis (CCA) and Cost-Benefit Analysis (CBA) may be more appropriate than Cost-Utility Analysis (CUA) (NICE, 2012b). This is due to CUA's use of quality of life (QoL) and Quality Adjusted Life Years (QALYs) to determine cost effectiveness, which currently do not readily include valuations for broader aspects of wellbeing (NICE, 2013). Furthermore, as PHIs such as urban regeneration can originate from multiple sectors and may have intersectoral impacts, evaluations need to be suited to a wider, societal perspective for which the outcomes are not constrained to one sector, and allow for comparison with other PHIs "originating outside the health sector where health may be one of a number of policy objectives" (McIntosh et al., 2012:3).

"Many public health interventions seek to impact on broader aspects of quality of life, not just health, but also non-health outcomes such as empowerment, participation and crime" (Lorgelly et al., 2010:2278).

Should these non-health aspects of quality of life (QoL) not be correctly captured within PHIs due to inappropriate (or limiting) outcome measures, then their associated value and benefit will be omitted from evaluations thus resulting in an underestimation and misrepresentation of an intervention's total value (Ryan and Shackley 1995).

Through use of payment vehicles within discrete choice experiments (DCEs) it is possible for the outcome to be included in CBA and comparisons outwith one intervention area and across sectors (McIntosh et al., 2012). Indeed as Wildman et al. (2016) outline, "CBAs considers issues of allocative efficiency across and within sectors and may be suitable when the outcomes are varied" (Wildman et al. 2016:1). Allocative efficiency concerns the identification of the best mix of services that results in the most total benefit. Technical efficiency, ascertains the best (minimum) input for a desired outcome. The outcome is fixed but *how* it can be achieved in the most efficient manner requires investigation (Drummond et al., 2015, Miller, 2009). There are different techniques which can be applied to equate the efficiency of interventions.

For the purpose of this thesis, a DCE would provide the opportunity to measure and value CE as broader aspect of wellbeing outcome and its valuation information could be included more readily within a CBA framework. The real ability of this elicitation method is that it will address previous shortcomings as Tyler et al. (2010) and Popay et al. (2015) have outlined in their attempts to incorporate CE into evaluations of urban regenerations, of CE being an outcome which previous measures have been crude and underdeveloped, or omitted just from evaluations. DCEs provide an alternative means for capturing benefits of interventions that go beyond health to include broader aspects of wellbeing and are not readily suited to a generic outcome measure such as the QALY. Consideration of the broader aspects of health and how best to include valuations for other elements/attributes has led researchers in the last two decades to borrow from transport and environmental economics to adopt methodology that captures utilities with preferences (Ryan and Shackley, 1995, Reed Johnson and Adamowicz, 2011). The use of DCEs allows researchers to value preferences for different attributes alongside one another and to integrate values into one measure (Ryan, 2004).

This valuable new evidence can then be used to inform future resource allocation and funding for CE promoting activities (and their link to improved health) within the delivery of urban regeneration programmes which are often delivered the result of multi-sector collaboration. Thus, discussion on forgone opportunities and opportunity costs and whether resources spent on CE promoting activities (and its possible linked health gains) represent the best use of resources could be initiated.

The following section outlines the aim of the thesis along with the key research questions.

1.4 Aim and research questions

This thesis explores how, through the use of economic evaluation techniques, the elements of CE can be identified, measured and valued within an urban regeneration context. The aim of the thesis is to identify appropriate methods which can facilitate the inclusion of the costs and outcomes associated with CE in future economic evaluations. Specifically, the focus is on identification, measurement and valuation of CE as an outcome leading to health and wellbeing gains. This thesis therefore seeks to answer the following questions:

1. How is CE best defined and measured?
 - a) What evidence currently exists on its measurement and valuation?
 - b) Is this evidence generalisable to an urban regeneration context?
2. Is there a link between CE and health?
 - a) What aspects of health and wellbeing and health behaviours can be linked to CE within an urban regeneration context?
3. Can urban regeneration lead to a sense of empowerment?
 - a) What are the main elements of CE in the specific context of urban regeneration?
4. Can economic evaluation techniques be used to measure and value CE as an outcome of urban regeneration programmes?
 - a) If so, what elements of CE can be measured and valued?

1.5 Key thesis terminology

For the purpose of this thesis, and for consistency in terminology, the concept of ‘CE’, ‘PHI’ and the context of ‘urban regeneration’ are aligned with current UK government definitions. This also ensures that the thesis can inform future cost-effective delivery of CE promoting activities within UK urban regeneration interventions.

1.4.1 Urban regeneration

The Scottish Government defines urban regeneration as “promoting the successful and sustainable transformation of communities by creating the right environment for private and public investment” (ODPM, 2004). The term refers to the redevelopment of urban neighbourhoods to better the physical (e.g. housing), environmental (e.g. provision of parks and woodlands), economic (e.g. provision of jobs and better transport links) and social (e.g. helping residents build connections within their community) condition of the area. Since the 1970s tackling poverty and deprivation within the context of place has been a focal element of UK regeneration policy. Regeneration aims to address growing inequalities (Scottish Government, 2011). Given this definition, residents undergoing regeneration could have been affected in any of the following ways: been relocated; had their homes refurbished; experienced substantial changes to their neighbourhood and community.

1.5.2 Empowerment

The World Bank defines empowerment as “the process of increasing the capacity of individuals or groups to make choices and to transform those choices into desired actions and outcomes”(World Bank, 2011). Yet this concept can vary in its form and occur at different ‘levels’; personal/psychological and community.

1.5.2.1 Personal/Psychological Empowerment (PE)

Personal/Psychological Empowerment (PE) is “a process in which a person who lacks power sets a personally meaningful goal oriented toward increasing power, takes action toward that goal, and observes and reflects on the impact of this

action, drawing on his or her evolving self-efficacy, knowledge, and competence related to the goal” (Cattaneo and Chapman, 2010:647). PE is a term most commonly associated with personal capacity and realising one’s perception of competence and control, their cognitive state (Woodall et al., 2010). At its most basic, “individual empowerment basically means people feeling and actually having a sense of control over their lives” (Woodall et al., 2010:9). However, it is possible to go beyond this and appreciate that such simplicity disguises the myriad of dimensions behind PE (Zimmerman, 1995).

1.5.2.2 Community Empowerment (CE)

The term ‘CE’ appears across many disciplines (Hur, 2006, Barr, 1995), but most commonly empowerment literature within the political sciences suggests that CE is the dispersion of power among the population to instigate a change in the social position of the more disadvantaged (Hur, 2006). Laverack and Labonte (2000) and Laverack (2006) highlight that central to this idea of ‘power’ is how communities work together to gain more control over decisions that influence their lives through a shift in power relations between themselves and others (notably policy makers). In this form CE is regarded as a ‘process’ however, it can also be treated as the ‘outcome’ from this enhanced autonomy and influence (Woodall et al., 2010, Khwaja, 2005). The Scottish Government, in their 2015 Community Empowerment (Scotland) Bill and previously published ‘Scottish Community Empowerment Action Plan’, state that in order to create vibrant communities, the government cannot force or compel empowerment on the citizens (COSLA and Government., 2009, Scottish Government, 2015). Instead, some facilitation may be needed in order to “remove barriers, promote better opportunities and support those already involved” (COSLA and Government 2009:3). The building of a relationship between the community and a public body “to help them both understand and act on the needs or issues that the community experiences” is referred to as ‘community engagement’ and is key to building Community Empowerment (GoWell, 2011).

The link between these two ‘levels’ of empowerment (PE and CE) has been theorised and researched by researchers such as Zimmerman (1995) and Speer (2000) who have demonstrated how, as an interactive process, individuals do not become empowered on their own in isolation. This link between PE and CE, and

what it means for the measurement of CE will be fully explored in this thesis (Chapter 2).

1.5.3 Population health intervention (PHI)

Often complex and context specific, PHIs “are intended to promote or protect health or prevent ill health in communities or populations. They are distinguished from clinical interventions, which are intended to prevent or treat illness in individuals” (Rychetnik et al., 2002). In their report on ‘Changing behaviours in public health’ the Local Government Association outline the importance of behavioural change policies and interventions (Local Government Association, 2013). Indeed, Public Health England and the Scottish Government have both highlighted the need for more evidence on ‘in place’ interventions which seek to tackle lifestyle-related illhealth, make changes to cultural, societal and environmental influences on behaviour, address widening health inequalities and key determinants of health (Health Scotland, 2015, Public Health England, 2014). The challenges posed by evaluating these interventions and their ‘value’ will be discussed in detail in Chapter 5.

1.6 Summary of thesis

Following this introduction of the research area, key themes, definitions and aims, this chapter concludes with an overview of the thesis.

Chapter 2 provides an overview of evidence relating theorising CE with other related concepts, to the measuring of empowerment, the link between health and empowerment already and the link between PE and CE evidenced in current research. Drawing on this provides a conceptual framework for the measuring of CE for the thesis. Chapter 2 directly relates to research questions 1 (how is CE best defined and measured?) and 2 (is there a link between CE and health?).

Chapter 3 presents a systematic review with narrative synthesis answering research question 3 (can urban regeneration lead to a sense of empowerment?). The chapter identifies specific elements of CE within an urban regeneration context that can be drawn upon for future measurement and valuation of CE.

Chapter 4 addresses research questions 2a (what aspects of health and wellbeing and health behaviours can be linked to CE within an urban regeneration context?) and 3a (what are the main elements of CE in the specific context of urban regeneration?). The Chapter details the methods and results from the first empirical analysis of the thesis using the GoWell research programme's (Egan et al., 2010) 2011 cohort. Specifically, by drawing on the theoretical foundation established in Chapter 2, the Chapter provides evidence that CE may be a pathway to health improvement. Additionally, through regression analyses, the Chapter also provides external validity to the CE elements identified from the systematic review with narrative synthesis in Chapter 3.

Chapter 5 first introduces the concept of economic evaluation and its associated techniques and methodologies. Chapter 5 then demonstrates how urban regeneration programmes are now an established form of population health intervention (PHI), highlighting the need for, and challenges associated with, conducting economic evaluations of PHIs. Chapter 5 represents the thesis starting to address key research question 4 (can economic evaluation techniques be used to measure and value CE as an outcome of urban regeneration programmes?).

Chapter 6 continues to introduce the reader to economic methodology and focuses on the use of discrete choice experiments (DCEs) to demonstrate established approaches to identifying, measuring and valuing outcomes of PHIs such as CE when there is no existing revealed preference information on their value available. The chapter examines DCEs as a theoretically grounded approach to eliciting preferences for outcomes of an intervention with a view to informing future cost-effective allocation of resources. The chapter specifically refers to research question 4 and 4a.

Chapter 7 details the DCE methodology used in this thesis to value CE as an outcome within an urban regeneration context. The chapter outlines how each stage of the DCE was undertaken including important piloting work. Furthermore, the use of residents' 'time' as an appropriate payment vehicle in the empowerment context is discussed. Additionally, the Chapter refers back to work carried out in initial stages of the thesis (the narrative review and

GoWell empirical analysis in Chapters 3 and 4) and how they informed the design of the DCE and provided external validity.

Chapter 8 presents the DCE results. The chapter details the UK survey sample, characteristics of respondents and resulting trade-offs and preferences for CE. The study's 'willingness to give up time' values for CE attributes and their associated levels are presented as well as an overall indication of the relative importance of each of the attributes to participants. Further analyses of the impact of socio-demographic characteristics on preferences are also given. The Chapter directly addresses research questions 4 and 4a by demonstrating the valuation of CE as an outcome of regeneration programmes and of each CE element systematically.

Chapter 9 provides a summary of the main findings and contributions of the thesis by revisiting each of the research questions. This final Chapter explores the thesis' findings within wider literature, indicates the thesis' strengths and weaknesses and proposes further study recommendations. Lastly, it outlines the policy and practice implications and main conclusions drawn from the research conducted.

Chapter Two: Community Empowerment and health

2.1 Introduction

As outlined in Chapter 1, current UK-wide policy emphasises the importance of including communities and their residents in the urban regeneration process. Furthermore, it briefly established an underpinning motive of this policy drive as the increasingly recognised potential for community empowerment (CE) to lead to additional health and wellbeing improvements from regeneration interventions, now a recognised form of PHI. Yet, identifying, measuring and establishing the ‘value’ of CE as an outcome of urban regeneration have been underdeveloped as outlined by previous attempts at economic evaluations as conducted by Tyler et al. (2010) and Popay et al. (2015). This Chapter begins by establishing how CE links to other related concepts such as community development and engagement and how they have been theorised as acting together. This will provide necessary foundation for understanding what CE entails and how it interacts with other actions aimed at enabling communities prior to scoping previous guidance on measuring empowerment at the CE level, and drawing from the existing broad ranging multi-disciplinary literature base to start to answer research question 1: ‘How is CE best defined and measured?’ Building from this, the chapter then explores the current evidence base to seek to address Research question 2 (is there a link between CE and health?). The purpose of this Chapter is to outline evidence within this research area and begin to identify how this can be adapted to the specific context of urban regeneration.

2.1.1 CE and other related concepts

As clearly outlined in Chapter 1, the central focus of this thesis is on CE. However, as Popay (2010) clearly states “there are many different ways of describing activities that broadly speaking are focused on enabling communities (defined in terms of place of residence or shared interest) to have greater control over decisions that affect their lives” (Popay 2010:184). The complementarity of CE, social capital and community-driven development (CDD)

has previously discussed by researchers such as Krishna (2003) and Grootaert (2003). Their 'brief notes' were written for developing the WorldBank's continued developing conceptualisation of empowerment strategies. "Social capital, community driven development (CDD), and empowerment are related but not equivalent concepts. Success in enhancing the level of any one of these concepts will have the tendency as well of improving the prospects for the other two concepts. There is, however, nothing determinate or automatic about any of these relationships" (Krishna 2003:1).

Social capital is described by Krishna (2003) and Groobaert (2003) as a form of 'stock', features such as norms and networks which help facilitate interactions and cooperation for shared benefit. Furthermore, researchers such as Adler and Seok-Woo (2002) and Bolino et al. (2002) have explained that social capital can be comprised of structural aspects (for example network ties or configuration), cognitive features (sharing of beliefs or norms) and relational aspects (where there is trust and some form of rapport or relationship). These aspects can influence how societies and communities interact. It represents CDD is understood as an activity or methodology that aim to increase community control of decision-making processes and resources. Empowerment for their purposes relates to expansion of an individual's or communities capabilities to make effective choices and "transform these choices into desired actions and outcomes" (Krishna 2003:1). They suggest that whilst CE can be viewed as the larger and longer-term goal, both social capital and CDD make contributions which help enable CE progress. Specifically, Groobaert (2003) highlights that in an operational sense this is a two-way process. First, the more empowered communities will be more likely to have more social capital and will be able to successfully support CDD activities. Secondly, CDD approaches will help build social capital and will help empower people by creating an environment where control over decision-making is more equitable and shared between stakeholders and communities. Krishna (2003) conceptualises this diagrammatically as shown in Figure 2.1. Figure 2.1 provides an initial understanding that successful empowerment (at either the individual or community level) may be enhanced or hindered by wider, contextual considerations and other mechanisms. Describing the concepts as having the potential to work in 'synergy' with complementary agendas, the diagram highlights the tendency for linkages and overlap. More

specifically, empowerment is shown to help improve the climate for CDD and overall capacity for social capital. At the same time, CDD is illustrated as helping provide resources and opportunities for social capital and empowerment. Lastly, social capital is seen as a facilitating feature for CDD and empowerment.

Figure 2.1: Social capital, CDD and empowerment: potential for synergy (Krishna 2003:4)

Figure 2.1 has been removed due to copyright restrictions

Yet, CDD and social capital are not the only concepts used alongside CE to describe actions aimed at enabling communities. Public policies have also referred to community engagement/involvement in relation to CE. A clear example of this is shown in England's 'An Action Plan for Empowerment: Building on Success' where the definition for CE is directly coupled with one for community engagement (DCLG, 2007). Here community engagement is described as "the process whereby public bodies reach out to communities to create empowerment opportunities" (DCLG, 2007:12). Such terminology describing engagement as a mechanism whereby CE is solely being 'given' to communities has been criticised as it firstly, fails to acknowledge communities own ability to gain control and take action, and secondly, assumes community engagement exists solely on a linear continuum as a mechanism which leads to CE (Chanan,

2009). As Popay (2010) highlights in her discussion of community engagement/involvement and its links to CE, there are numerous examples within the evidence base to suggest that community engagement can be experienced in a number of ways, with non-CE end objectives.

“Given this diversity it is clear that community engagement activities do not rest on a readily identifiable body of knowledge. They may adopt a community development approach and explicitly encompass the aim of community empowerment or they objectives may be more modest than this” (Popay, 2010:185).

Popay (2010) highlights that a community engagement activity may support CE or community development or it may have other goals. This complimentary yet non-linear relationship and approach between the concepts is also suggested by the Scottish Government in their ongoing agenda for CE.

“The Scottish Government is committed to our communities being supported to do things for themselves - community empowerment- and to people having their voices heard in the planning and delivery of services - community engagement and participation” (Scottish Government, 2013a).

The complexity, diversity and at times, complementary relationship between concepts of CE, social capital, CDD and community engagement can cause confusion with their similar overarching goal of enabling communities to take action and control over key issues affecting their lives. This thesis has a CE focus and seeks to identify, measure, and value the health and wellbeing links to CE within an urban regeneration context. A key motivator for the thesis is the current prioritisation by the Scottish Government, placing CE at the heart of its agenda (Scottish Government, 2015). However, from briefly examining CE in relation to similar contexts has highlighted that prior to any attempt of measuring and valuing CE and its links to health and wellbeing in urban regeneration, the diversity of different approaches to the concepts has demonstrated that CE is most likely to be context sensitivity and thus, how it is

conceptualised, (a process or an outcome) may differ in an urban regeneration context than elsewhere. Therefore, the thesis would benefit from starting with an explanation of CE and whether it is being considered an end or a means to an end before going on to explore links to health and examining it within urban regeneration.

Furthermore, it has demonstrated that conclusions from this thesis may help advice future approaches to the other related concepts thus, it will be important to revisit these concepts in the final discussion sections when theorising CE in the wider literature and thinking about implications for future policy and practice.

2.2 Community Empowerment: An End or a Means to an End?

“Empowerment is not a new concept. Every society has local terms for autonomy, self-direction, self-confidence, self-worth. What is new is the attempt to measure empowerment in a systematic way” (Narayan, 2005:3).

Chapter 1 briefly highlighted how CE has become a key consideration of UK public policy with a particular focus on “the fields of regeneration and housing and in the context of social deprivation” (GoWell, 2011:2). However it is important to remember that since the 1980s, the term ‘empowerment’ has been associated with work conducted worldwide by development agencies (Narayan, 2002). Indeed, by 2005 the World Bank established a project ‘portfolio’ of over 1,800 programmes worldwide seeking to enhance “an individual’s or group’s capacity to make purposive choices and to transform those choices into desired actions and outcomes” (Narayan, 2002:1). The process of empowerment, both at the individual (PE) and community (CE) level, has been observed from many perspectives and within a multitude of contexts over time each with subtle differences in their interpretations albeit in the fields of political science, feminism, education, health studies or community psychology (Hur, 2006).

However, central to most interpretations are the notions of individuals and communities gaining of 'power' and 'influence' over issues and decisions affecting their daily lives (Khwaja, 2005, Narayan, 2005). In the political sciences, there is a concentration on the notion of empowerment as a dispersion of power among the people and changing the social position of those more disadvantaged, as individuals and communities achieve this change in social position and building their skills set and capabilities (Weissberg, 1999). This view of empowerment has many similarities with the notion of empowerment used in the education field where Friere (1973) developed the 'popular education' philosophy whereby through learning and gaining confidence about social inequality, those who are oppressed or disadvantaged can become liberated and 'empowered'. Developing their sense of power, enabling people to act collectively and bring about change is the undercurrent of this empowerment theorizing in educational research (Hur, 2006, Freire, 1973). Empowerment has also been popularised in feminist discourse and was a central slogan of the women's movement and the debate on gender inequality (Luttrell et al., 2009). The World Bank continues to use women's empowerment (such as financial autonomy and access to education) as an indicator of successful development and progress in a number of its projects worldwide (Narayan, 2005). In the community psychology and health studies literature, empowerment of individuals and groups is linked to role of social support and collective actions whilst the social welfare literature equates empowerment with the gaining of economic, social and political power as individuals work to distance themselves from poverty and improve their circumstances (Hur, 2006).

Regardless of the similarities across disciplines, the popularisation of the concept of 'empowerment' has led to it becoming what Barr (1995) describes as a 'rallying call' due its extensive use within many disciplines leading to some misuse or inappropriate use as a 'buzzword' in today's society. The term 'empowerment' is now used throughout the social sciences when discussing a means of gaining power as groups or individuals gain assets and capabilities and actively seek to participate in, change and control their surroundings (Rappaport, 1987, Narayan, 2005).

As stated in Chapter 1, the focus of this thesis is to measure and value CE (as an outcome of urban regeneration). The most up-to-date economic evaluation study conducted by Popay et al. (2015) demonstrated that more work was needed regarding the measurement of CE within an urban regeneration context. In 2005 the World Bank published 'measuring empowerment: cross disciplinary perspectives', seeking to provide insight, guidance and a conceptual framework for those "interested in approaches to poverty reduction that address issues of inequitable power relations" (Narayan, 2005:3). Khwaja (2005) provides an 'economist's perspective' on measuring empowerment at the community level.

"I do not propose to offer a laundry list of potential measures applicable in all circumstances; such an exercise is almost futile, as good measures are likely to be context-dependent" (Khwaja, 2005:267).

This work by Khwaja (2005) provides useful considerations and a starting point for this thesis conceptualising CE as an outcome of urban regeneration. Khwaja (2005) suggests that pivotal to any attempt to measuring and valuing PE or CE is the need for the researcher to determine whether they are interested in empowerment (at whatever level) "as a component of an agent's welfare or utility (empowerment as an end), or whether it is true by causation, that is, empowerment influences a component of welfare such as the agent's income or health status (empowerment as a means to an end)" (Khwaja, 2005:269). That is not to suggest that there needs to be a trade-off between these two stances, as neither is considered 'correct' but instead, a researcher should consider what interpretation they are considering as this will ultimately influence the theoretical framework developed. When considered a desired end, the researcher should be able to explicitly define empowerment and justify a measure that can be viewed as an endpoint. Should they interpret it be a means to an end, then the effect (a direct welfare value) empowerment has on the desired outcome (such as health gains) should be shown thus establishing a causal effect (Khwaja, 2005).

Khwaja (2005) study further elaborates the development of a theoretical framework for empowerment at the community level using 'elements' or components of empowerment (access to information, inclusion, accountability

and local organisational capacity) as outlined by the World Bank for their own purpose and agenda (Narayan, 2002). Again, what this demonstrates is the need to prioritise what ‘components’ of CE exist within an urban regeneration framework. In order to measure CE, an explicit understanding of CE ‘elements’ within an urban regeneration context firstly needs to be established. Referring back to the policy undercurrent of CE within urban regeneration (Scottish Government, 2015, DCLG, 2006), understanding those critical capabilities and assets a community needs to obtain and the key contextual factors required to help enable and foster their achievement of CE is essential to creating a relevant measurement methodology to capture CE within this context (Dodds, 2016, Khwaja, 2005). The work undertaken to answer research question 3 of this thesis (can urban regeneration lead to a sense of empowerment) will establish these features and elements of CE to facilitate the subsequent valuation of these elements.

2.3 Evidence linking Empowerment and Health

The literature presented in this Chapter was identified through a rapid scoping exercise conducted February - April 2012. In order to capture literature spanning across a number of fields it was necessary to explore databases that catered for different subject areas. As such, the following databases were consulted: ASSIA (Applied Social Sciences Index & Abstracts); Campbell Collaboration Library; CINAHL (Cumulative Index to Nursing & Allied Health); Cochrane Database of Systematic Reviews; EBSCOhost; ECONLit; EMBASE; ERIC; Expanded Academic host; Health Source: Nursery/Academic Edition; IBSS (International Bibliography of the Social Sciences); MEDLINE - PubMed; NHS EED (NHS Economic Evaluation Database); OpenGrey; PapersFirst; PsycINFO; Scopus; Social Care Online; Social Services Abstracts; Sociological Abstracts; WoK (Web of Knowledge) and Worldwide Political Science Abstracts. Arguably, such a wide array of sources could potentially detract from the overall quality of the review. However, the databases were only chosen after the researcher had assessed the descriptions of each provided by the University of Glasgow’s library services and the database itself. This search incorporated databases that hold clinical studies, studies of a non-randomised nature, and social science research literature.

Through approaching the theoretical baseline of 'Community Empowerment' through texts for whom the focal point was (or included) the concept's key factors/principles, appropriate search terms were identified. Literature searches were conducted using all combinations of the following terms; wellbeing; health; health improvement; personal empowerment; psychological empowerment; community ownership; community hierarchy/power structures; community cohesiveness; community capacity/competence; community equity and collective empowerment. The researcher applied minimal inclusion criteria. No boundaries regarding the studies origin (country) were applied however, due to time constraints, studies in English were prioritised. Additionally, the 'population' in question was identified as being geographically bounded (neighbourhoods) rather than communities comprised of other combining factors - i.e. disease, sexual preference, gender beliefs or political communities (EU). Abstracts from the references identified in the searches underwent review and relevant papers were selected for inclusion. Further references were identified via citation searches of key authors and hand searches of the reference lists of included papers.

The review identified three existing published evidence and literature reviews examining the relationship between health and empowerment (Wallerstein, 2006, Woodall et al., 2010, Laverack, 2006). The main purpose of drawing directly from these reviews was to act as a preliminary review, highlighting potential aspects of an individual's or community's health that could be improved by health prior to undertaking analyses of health and empowerment data of neighbourhoods throughout Glasgow undergoing regeneration (Chapter 4).

2.3.1 Empowerment and improvements to individual level health: evidence from the literature

Woodall et al. (2010) summarise that empowerment programmes or interventions can produce specific health improvements for individuals. Woodall et al. (2010) argue that the studies included in their review highlight that the clearest link between how empowerment strategies/ interventions and health outcomes is through improvements to an individual's psychological well-being.

Furthermore, such claims are corroborated by Wallerstein (2006) and Laverack (2006).

All three reviews identified that as individuals gain more control over the issues affecting them, they are more likely to show an improvement in their self-esteem, confidence and have an increased sense of personal and collective efficacy. Moreover, all three reviews highlight the role of 'participation' in empowerment strategies such that individuals who collaborate and work together reported improved 'sense of control and self-efficacy' as well as wider social connections. Specifically Laverack (2006) determined that participation and social support from collective working to overcome a common issue, can have a positive influence on an individual's health as people become more able to cope with stressful situations and increase their reported levels of sense of control (Laverack, 2006). Indeed, three of the nine empowerment domains listed by Laverack (assessment of problems, asking why and resource mobilisation) all credit the importance of an individual within a community having the motivation and ability to work with others to reach an end goal as a clear indicator of their empowerment. Yet, Laverack (2006) adds the caveat that participation alone was not shown to result in health benefits; social support and building connections with those in similar circumstances are required. This allows interpersonal trust in others and in public institutions to develop and individuals to work together to improve healthcare delivery and services. Furthermore, of direct relevance to this thesis, the three reviews refer to literature on patient/consumer empowerment and self-care strategies, as clear indicators that increased sense of control over their medication and (health) condition "have shown significant impact in improving health and quality of life" (Wallerstein, 2006:12).

"In addition, evidence from a chronic disease self-management programme showed that participation improved health behaviours, improved health status and decreased the number of days that participants spent in hospital" (Woodall et al., 2010:14).

The review by Laverack (2006) illustrates that as individuals and communities develop the ability to gauge how best to cope with, and alter their

circumstances, they can potentially gain the ability to apply this knowledge “to raise resources from within, including land, food, money, people skills, and local knowledge, and from without, for example, financial assistance, technical expertise, ‘new’ knowledge, and equipment” (Laverack, 2006:116). Within his review, Laverack highlighted that in at least one case study, this then “led to an improvement in the reported levels of self-esteem and confidence” (Laverack, 2006:117).

This health benefit through empowerment is further emphasised in the reviews by Wallerstein (2006) and Woodall et al. (2010). Through increased self-awareness and openness to engaging with others for resources and knowledge, empowerment enabled individuals to change their habits and health behaviours and eventually take more control over their health without being solely reliant on the knowledge of the specialist workers. As a result people reported positive psychological empowerment and social bonding outcomes.

As previously stated, all three reviews demonstrate that participation in empowerment strategies led to health benefits being gained. Collaboration with others who are experiencing similar concerns or circumstances is shown to produce feelings of trust, which in turn enables partnerships to develop (Woodall et al., 2010). Laverack (2006) states that “the development of partnerships is an important step towards empowerment and can also lead to an improvement in health outcomes by pooling limiting resources and by taking collective action” (Laverack, 2006:117) thus, bringing about changes in their local circumstances. Laverack suggests that not only does participation in collective action have the potential to influence health gains but the resultant changes in circumstances can sometimes produce health gains and draws on the work of Jones and Sidell (1997) to illustrate this.

Upon further examination of the source material it is possible to see that Jones and Sidell (1997) illustrate that alliance building between a community group with feelings of marginalisation and isolation and local health practitioners and service providers led to the alliance taking ownership in decision making processes. Practitioners sought to develop exercise class programmes for the community which “had a health benefit to the women by helping reduce weight but mostly through an improved feeling of well-being brought about by regular

exercise” (Laverack, 2006:117). Such health gains were also given prominence in Wallerstein’s review when discussing youth empowerment and women’s empowerment strategies (Wallerstein, 2006). Both the inclusion of individuals in the development and running of empowerment strategies targeted at them, or even, involvement in wider decision making processes had proven health gains such as autonomy, self-efficacy and improvement in psychological mental health (especially in reference to women’s empowerment).

“Evidence shows that engaging young people in structured organised activities that link them to each other and institutions enhances their self-awareness and social achievement, improves mental health and academic performance and reduces rates of dropping out of school, delinquency and substance abuse” (Wallerstein, 2006:12).

2.3.2 Empowerment and improvements to community level health

All three reviews concurred that the measurement of health benefits at the community level has been under-represented within the literature with the majority of work only able to suggest that “community engagement is beneficial for social cohesion, social capital and strengthening relationships and trust among participants” (Woodall et al., 2010:16). Wallerstein (2006) concluded that for the full potential of empowerment strategies and their health gains to be achieved requires ‘power imbalances’ to be addressed towards a more equitable situation between the community/participants and the facilitator/organiser of the strategies. As previously reported, all three reviews emphasised that this could be achieved through individuals working collectively.

There was clear recognition throughout the three reviews of the role that empowered communities could undertake in the provision of local services and improving their health through participating in the development of local healthcare (Wallerstein, 2006, Laverack, 2006, Woodall et al., 2010). Indeed, one of the key findings from Wallerstein’s review (2006) is that empowerment strategies which seek to include communities in decisions regarding their health service provision, have the potential to help improve the health and

circumstances of socially excluded populations which traditional strategies and interventions may have previously struggled to reach (Wallerstein, 2006).

However in the same review, Wallerstein (2006) presents research that empowerment strategies are insufficient unless they address wider concerns. The review highlights that whilst participation and collaboration with the intended recipients of the empowerment strategies should form the basis of the intervention there is also the need for such participation to “build capacity to challenge non-responsive or oppressive institutions and to redress power imbalances” (Wallerstein, 2006:15). Similarly in his examination of the links between CE and health, Laverack (2006) states that the individuals and communities who are empowered and actively involved in working collectively to achieve a common goal, and who are coming together to progressively alter the balance of power in their sphere of influence, could potentially be addressing “the underlying social, structural and economic conditions that impact on their health or their immediately needs” (Laverack, 2006:113). Laverack (2006) clarifies that often the root catalyst of inequalities in health is an unequal distribution of resources and possible ill-treatment of individuals through ill-fitting policy decisions that favour particular groups within the community (perhaps unintentionally). More importantly, Laverack (2006) suggests that CE is often the solution applied to these problems as CE can enable communities to take action against those issues that concern them.

The three reviews predominantly refer to the ability of communities to become empowered over their own health by participating in health interventions (health promotion). They do not extensively explore the role of empowerment through the delivery of interventions or programmes that are not specifically linked to health or are solely empowerment strategies. In her 2006 review, Wallerstein highlighted that CE outcomes could include community bonding measures, cohesion within the community, individuals gaining a sense of community and social capital. However, this review looked solely at strategies providing empowerment and health impacts, this did not fully account for the potential of empowerment occurring in wider PHIs and leading to health gains.

In particular, no research included within any of the three reviews specifically looked at strategies aimed at supporting empowerment within urban

regeneration programmes as a pathway to health gains. What is inferred by the reviews is the promise of empowerment, whether individual or through acting collectively, can lead to clear improvement in an individual's health.

The reviews have illustrated that there is limited evidence to suggest that health gains can be obtained through increased empowerment. However, it is important to briefly consider the quality of the reviews. This is not a critical appraisal but a comment on any limitations the three reviews present before drawing final conclusions on their evidence. Wallerstein (2006) aimed to examine "the effectiveness of empowerment strategies to improve health and reduce health disparities" (2006:2). The author provides the sources of the evidence drawn (such as a list of databases used and websites searched for grey literature) and excluded results which were fully theory based in favour of empirical work. Due to the wide range of source material (both quantitative and qualitative), Wallerstein justifies the choice of a narrative review rather than systematic review techniques for the purpose of the report. However, there is a lack of detail on why it was considered inappropriate to adopt specific comparison criteria when the aim of the review was an effectiveness study. This requires studies to be compared with one another thus details on the critical appraisals undertaken (if any) or assessment for content quality should have been included. Furthermore, whilst the databases searched and other sources of evidence are given, details on the inclusion and exclusion criteria are not provided. For example, the search date range is not provided nor is an indication of search terms given. This undermines the reader's ability to fully establish the validity of the conclusions drawn in the report.

Laverack's published paper of the review provides details of the searches undertaken. Literature (English language) from 1995-2005 were included and specific search terms and search sources databases are provided. The paper states that an analysis of the content, methods and source of studies was carried out. Unfortunately, similarly to Wallerstein (2006) report, this paper does not report the type of critical appraisal undertaken or the inclusion and exclusion criteria used aside from classification of the included studies into empirical or theoretical and then into nine domains of empowerment. This lack of

transparency in the search strategy hinders the readers' ability to fully assess the results presented.

The third and most recent review available was a rapid evidence review by Woodall et al. (2010) with the aim of reviewing the available evidence base for empowerment and health. Unlike the previous two reviews, which were included as studies in this search, the authors provide extensive details of their search strategy. The review had a 2000-2010 date range. The review described all search terms used, information on the source databases, websites and grey literature searches as well as a full description of their inclusion and exclusion criteria, the criteria of the appraisal stage and a summary of the data extracted from all included reviews. This allows the reader to make a fully informed judgement of the information they are being presented with and draw their own conclusions of its validity.

Omitted details throughout all three reviews raises some general concerns about the robustness of their searches and findings. Indeed, all three of the reviews provide recommendations for further work:

“Future actions therefore should consider the following: [...] invest in research designs that test the hypothesis of the added value of participatory empowerment strategies to promote health outcomes: it is important for policy makers to understand that the changes in empowerment outcomes, such as psychological empowerment, institutional accountability or community policies, can be sufficient evidence of a successful programme even if changes in health outcomes have not yet occurred, especially at the regional or national levels” (Wallerstein, 2006:16).

“More research is needed to establish the evidence for links between empowerment and improvements in the health

status of individuals, groups, and communities” (Laverack, 2006:118)

“There is a need to develop appropriate approaches so that any benefits of empowerment are captured. Many programme evaluations have used weak methodologies, based on small samples sizes for example, to try and demonstrate effectiveness. The evidence suggests that programmes often find it challenging to quantify the actual differences they make to the health of individuals and communities” (Woodall et al., 2010:20).

It can therefore be concluded that in order to address research questions relating to the ‘worthwhileness’ of CE interventions within an urban regeneration context a fully comprehensive in-depth, systematic review of the literature would need to be carried out. The aim of this review would be to identify how empowerment can be identified, measured and valued within urban regeneration programmes, the specific focus of this thesis. However, prior to this, indications of negative health associations with empowerment would need to be considered.

2.3.3 Empowerment and negative health impacts

Within all three reviews of health and empowerment, only Woodall et al. (2010) identified a single study that suggested the possibility of a negative health impact from empowerment strategies. This paper, by Gibbon (2000) examined women’s empowerment in Nepal and factors that can benefit or hinder it. Gibbon (2000) highlights how unmet expectations from taking part in a group or collective action could lead to a sense of frustration as participants gain false hope that their involvement would lead to improvements in their health and wellbeing. Yet, as Woodall et al. (2010) clearly state, this negative association was not reinforced by the author with empirical data. However it does raise an interesting point as to the possible negative effects on health that empowerment can have.

Sections 2.3.1 and 2.3.2 demonstrated that when successful empowerment strategies could be linked to health improvements such as greater self-efficacy, self-esteem, increased sense of social support/connections and sense of control. They also highlighted the key role of participation in these positive health improvements. However researchers such as Dobbs and Moore (2002), Anastacio et al. (2000) and Edwards (2002) have emphasised that empowerment strategies with diverse communities can often struggle to ensure all individuals views are represented leading to individuals feeling disempowered, a lack of control and marginalised from their wider community. Has Goodlad et al. (2005) recommend, when stakeholders strive to create a sense of partnership and collaboration by involving communities in decision-making processes, there is a need to extend these efforts to include the whole community. Failure to do so could inadvertently restrict any health benefits and widen inequalities as stakeholders favour established, resourced groups at the expense of their more silent and marginalised counterparts (TSEC, 2014).

Within the field of urban regeneration specifically, researchers such as Dargan (2009) and Lawson and Kearns (2014) have argued that ineffective CE and participatory approaches which have assumed that one voice or one group within a community is representative of an entire community's shared aims have led to divisions between groups, hindered the delivery of the regeneration programme and produced sentiments of frustration, loss of control and a lack of social cohesion. Thus, the potential links to health improvement suggested by Wallerstein (2006), Laverack (2006) and Woodall et al. (2010) have not been produced. Additionally, as The Royal Society of Edinburgh (RSE) state in their 2014 Advice paper to the Scottish Government on 'Community Empowerment and Capacity Building', empowerment strategies invite risks (RSE, 2014). Strategies which do look beyond 'the usual suspects' commonly are met with disagreement and general fracturing of opinion. In these circumstances, inclusive solution seeking efforts must be sought, where communities and stakeholders work through issues in a transparent manner. This will be challenging but can ensure 'equality of opportunity', less inequality or feelings of injustice and loss of sense of control or awareness. Lastly, this drive for urban regeneration policies which seek to increase the role of communities within urban regeneration programmes as explained in Chapter 1, is highly dependent

on the proper structures and support to ensure communities have the capacity for this (TSEC, 2014). The positive health links and success of empowerment strategies is reliant on the way they are developed and as shown in Section 2.2, CE is complex and context sensitive (Khawaja, 2005). Sections 2.3.1 - 2.3.3 have highlighted that the links between empowerment (PE and CE) and health (both positive and negative) are far from straightforward and are highly dependent context and approach. Therefore, an understanding as to what specific CE elements can be supported or hindered by the urban regeneration intervention process will need to be undertaken to further unpick how CE can be measured and valued and what aspects of health may be linked to health in this context will need to be further explored within this thesis.

However, prior to this, given the confusion in the literature around links between individual and community empowerment (which were initially shown in the health and empowerment literature presented in Section 2.3.1 and 2.3.2) further work is required to confirm or refute this. If a clear link between the two can be firmly established this will pave the way for research regarding how CE can be measured and whether using an individual's value or perspective of CE is a justifiable approach or if a group/community measure will be needed. Therefore, in Section 2.4 established models and theories of empowerment of individuals and communities being linked will be examined

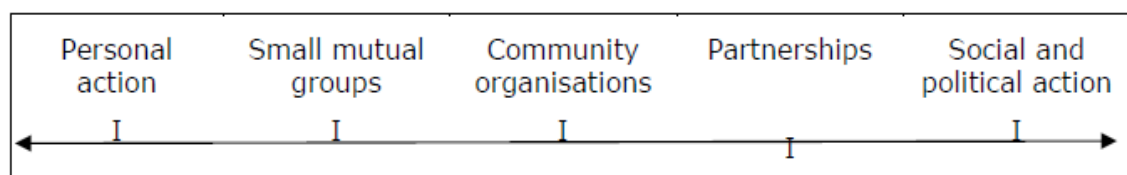
2.4 Linking Personal/psychological Empowerment (PE) and Community Empowerment (CE)

The reviews have identified research proposing that rather than a standalone concept, CE could be the result of actions initiated by the concern an individual has related to a given issue. Therefore, this leads them to engage with others, gaining more control over the issue, building social connections with others (bonded by a common interest) thus enabling them to collectively creating social change (Woodall et al., 2010, Laverack, 2006). The following section examines how levels of empowerment may be directly linked on a continuum with levels of personal/psychological empowerment acting as an initial catalyst for community empowerment.

2.4.1 Personal/psychological Empowerment (PE) and Community Empowerment (CE) on the same continuum

CE has been regarded, and described as, a process and as an outcome occurring on a continuum (Woodall et al., 2010, Laverack and Wallerstein, 2001). When seen as a process, CE has been defined as a series of actions initiating with the individual and gaining momentum to become activities which are more organised, involving the community and social action (Laverack, 2004, Woodall et al., 2010) Laverack (2004) chose the illustration outlined in Figure 2.1 below to best demonstrate the creation of this process. This 'continuum' of empowerment, (with one level of empowerment (PE) acting as a catalyst for another (CE)) highlights the possibility of each point being part of a progression towards what Woodall et al. (2010) term 'the goal of community empowerment'. The role of collaboration and participation is clearly featured in this interpretation of CE as being both a process and the end outcome. Figure 2.1 (adapted from Laverack 2004) demonstrates how this process initiates from the individual gaining interest in issues that affect more than just their lives to then engaging with others (small mutual groups), participating on a larger scale with organisations and partnerships and so forth.

Figure 2.2 Process of CE (Laverack, 2004:48)



Braunack-Mayer and Louise (2008) state that some communities which are disadvantaged or socially-excluded may lack some of the required power to make decisions and choices without guidance or support. Thus, they suggest that rather than a simple division between top-down stakeholder-led and bottom-up community-driven approaches there may in fact be a need for the inclusion of some top-down aspects to any CE. They note however that establishing the balance between top-down and bottom-up would be paramount. As NICE (2008) discussed in their work on the community engagement processes to improve health, the most successful attempts to promote CE resulting in positive health gains are those which work within existing community forums and establish the

community as a partner stakeholder (NICE, 2008). In 2008, NICE produced the framework shown in Figure 2.2 to illustrate this necessity for communities to be at the heart of interventions to promote CE and engagement and thus lead to health gain as empowerment strategies involve communities. The effectiveness of this however “will depend on the context in which the approach is use and the process used to implement it” (NICE, 2008:7).

Figure 2.3 Pathways from community participation, empowerment and control to health improvement (NICE, 2008:8).

Figure 2.3 has been removed due to copyright restrictions

What Figure 2.2 illustrates is that, as the reviews by Wallerstein (2006), Laverack (2006) and Woodall et al. (2010) emphasised, that increased sense of empowerment may in turn lead to health gains. By working as equal partners, communities are empowered (as power has been delegated to them) with a sense of control and this “may lead to more positive health outcomes [...] may also improve other aspects of people’s lives, for example, by improving their sense of belonging to a community, empowering them or otherwise improving they sense of wellbeing” (NICE, 2008:6). It is this participation, and overall social connections that are definitively being linked to health gains being produced. Yet, the guidelines clearly recommend that the most health gains will

be felt by the communities who have a sense of control and real ‘power’ and ‘influence’, more so than those who have only been informed or briefly consulted with.

As outlined earlier in this chapter, the role of participation is emphasised as a key component to achieving health gain (Woodall et al., 2010, Laverack, 2006) and Wallerstein goes as far as to suggest that participation is “the backbone of empowering strategies” (Wallerstein, 2006:9). However, all three reviews stipulate that participation on its own does not guarantee successful empowerment; communities must have a sense of control and influence (real power) over local decisions.

Since the late 20th century empowerment has become a mechanism utilised by organisations such as governments, non-governmental organisations (NGOs) and health sector to help alleviate health issues, poverty and social exclusion (Wallerstein, 2006). Wallerstein (2006) emphasises in her review that participation has the potential to form the ‘backbone’ of empowerment strategies if sought in a non-manipulative and active manner whereby communities have access to information and are included in the decision making process in such a manner that they can exert some influence on the process (Narayan, 2002).

The reviews all demonstrate that individuals working collectively is key to producing health gains yet this raises the question as to whether collective working is an element of PE or if this should be interpreted as an indicator of CE and, in turn demonstrates a potential fluidity between the concepts that requires further investigation (Wallerstein, 2006, Laverack, 2006, Woodall et al., 2010).

In his conceptual work examining the creation of psychological empowerment (PE) Zimmerman (1995), suggests that whilst empowerment can be magnified to different contexts or ‘levels’, this does not exclude the possibility of an inter-level relationship being established. In fact, he further clarifies in later work that the boundaries preventing empowerment being viewed in an all-inclusive manner are often created by external forces (researchers and practitioners) for convenience to ensure they can capture data and/or implement programmes

with relative ease. It is argued that this “tendency to reduce complex person-in-environment phenomena to individual dynamics” (Peterson and Zimmerman, 2004:129) has placed limitations on the prospective impact of empowerment theory throughout disciplines. However, through their examination of PE it is possible to grapple with wider implications of empowerment and identify the possibility of a link between PE and CE (Peterson and Zimmerman, 2004).

PE describes personal capacity and the realisation of one’s perception of competence and control; the cognitive state (Zimmerman, 1995). At its most basic, “individual empowerment basically means people feeling and actually having a sense of control over their lives” (Woodall et al., 2010:9). However, Zimmerman (1995) claims that it is possible to go beyond this and appreciate that such simplicity disguises the myriad of dimensions behind PE. As shown in Figure 2.3 Zimmerman (1995) attempts to provide a comprehensive model of the development of an individual’s sense of empowerment which highlights that PE is an interactive process.

Figure 2.4 Zimmerman’s (1995) Nomological Network of PE

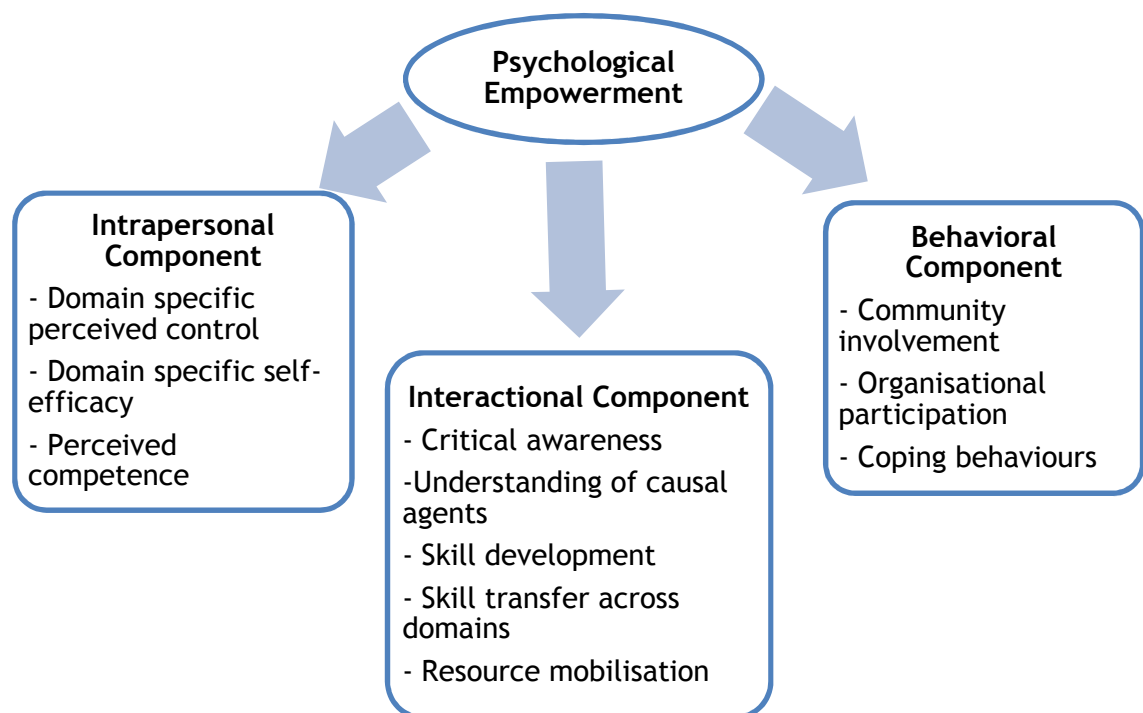


Figure 2.3 highlights three components of PE (intrapersonal, interactional and behavioural) that Zimmerman (1995) regards as the three tenets of PE development. Intrapersonal refers to positive self-perception albeit in different 'domains' of a person's life. Zimmerman's belief was that without this driving force individuals would be unable to create the capability to successfully achieve desired outcomes. Furthermore, here it is clear that only positive perceptions have been chosen with the exclusion of perceptions such as social isolation and powerlessness which could negatively impact on psychological empowerment (Zimmerman, 1990, Rappaport, 1985). The interactional component addresses how individuals understand their surrounding community and any socio-political issues; they gain an appreciation for their reality. Here Zimmerman (1995) explores his belief that through a mindfulness of options available to them, people can then learn how best to gain a sense of control in their particular setting. Certain skills are needed for this, for example, critical awareness, decision making and even leadership skills. By learning how best to gain, use and maintain resources to achieve a preferred outcome, individuals can become less reliant on others. Lastly is the behavioural component, most pertinent to this thesis as it clearly illustrates that achieving PE involves 'community involvement'. The underlying aspect of this component is to examine those actions that enable individuals to influence outcomes. This is the component when individuals are learning to 'cope' and overcome their surroundings partly through participation and involvement through community or organisation activities or even from attending self-help groups if experiencing addiction issues to implementing stress management techniques.

Here the model presents potential components that could be identified and analysed at an individual level. Zimmerman (1995) emphasises that this is not an alternative to measuring CE and should not be used interchangeably. Instead the model hints at the possibility that the development and success of PE requires individuals to interact with their immediate surroundings and local community (interactional and behavioural components) whilst also relying on the individual gaining some self-confidence (intrapersonal component). Yet, how to measure each component, or how they interact with one another is not tackled here and Zimmerman (1995) presents this solely as a theoretical model that could be adapted and modified for furthering empowerment theory.

A key element of Zimmerman's (1995) description of PE is the necessity for individuals to interact and engage with their local surroundings and more specifically, develop relationships with others (behavioural components). Zimmerman indicates that this is an integral component of empowerment and demonstrates the importance of surroundings in one's empowerment process. The individual must have the willingness to want to seek change in his/her local environment and develop his/her awareness of key local issues. This perception that the development of an individual's sense of PE necessitates incorporating the development of relationships (with those in their immediate surroundings) and stepping outside his/her own concerns to be able to embrace the issues of other people and strive to act for the collective good is not unique to the work of Zimmerman. A further three case studies within the literature support Zimmerman (1995) to suggest that not only is PE an interactive process but also demonstrate that it can lead to the development of CE (Chavis and Wandersman, 1990, Saegert and Winkel, 1996, Mok, 2005).

The work by Chavis and Wandersman (1990) illustrates the influence of a sense of community and personal power can have on the development of participation in local activities within the neighbourhood and local associations. Interviews with residents (about their community, neighbour relationships, their sense of control over neighbourhood block decisions, their overall sense of control and lastly, how they perceived any problems in their block) highlighted how residents who felt they had a personal sense of control over their local block and good relations with neighbours were more inclined and comfortable with participating at local organisations and activities. Furthermore, the study showed that "neighbourhood relations contributed significantly more than any other item to the prediction of the level of participation" (Chavis and Wandersman, 1990:73). Thus, developing the ability to engage with others as a building block linking PE to CE substantiates the work by Zimmerman (1995) further as the study continued to uncover that whilst an individual's perceived sense of control and perceived collective sense of control can both operate independently, these two variables can, and do, interact as individuals with stronger sense of personal control also report higher levels of collective control and participation. Saegert and Winkel's (1996) empirical work adds to this suggestion of PE and CE being interlinked through their research examining

how low-income minority communities can improve their immediate circumstances and gain PE and CE. They provide clear evidence that at the individual level, high levels of formal (involved in building activities) and informal (helping neighbours, cleaning communal areas) empowerment as well as participation in building's activities had a positive relationship with reported levels of personal and political (voting behaviour) empowerment. This led them to conclude that participation in building activities could act as an indicator of CE (Saegert and Winkel, 1996:517) with those who reported higher levels of personal control also participating in local, neighbourhood-wide activities. In addition, the study illustrated the importance of local contextual factors on the development of empowerment, with building quality of life and living in cohesive areas affecting an individual's personal and political empowerment, in turn, affecting CE. This need to include the social and environmental factors when considering the development of empowerment at any level is one shared by Zimmerman et al. (1992), and illustrated in Figure 2.3 above. Saegert and Winkel (1996) state that their study further supports the work by Zimmerman et al. (1992) whilst also giving further credence to the work by Chavis and Wandersman (1990) that "sense of community contributes to greater involvement in community activities" (Chavis and Wandersman, 1990:542) emphasising the need for interaction with others to lead to CE.

Mok (2005) highlights the connection between feelings of a sense of PE potentially leading to engagement with others in his work on the role of self-help groups enabling people to gain the self-belief to feel empowered and engage with others. This research suggests a process for the creation of CE, a perspective that was, to a lesser extent, identified in the rapid literature synthesis on empowerment and health and wellbeing by Woodall et al. (2010).

2.5 Conclusions

From these reviews and empirical studies within it has been theorised that empowerment at both individual and community levels should not be treated as separate entities as it is possible to identify links between them, with participation and interaction with others (for collective action) acting as an enabling factor or link between PE and CE (Chavis and Wandersman, 1990, Zimmerman, 1995, Saegert and Winkel, 1996, Hur, 2006). Indeed, in his

examination of components of empowerment at the PE and CE level, Hur strongly advocates that whilst there exist clear distinctions between the two levels, there needs to be more acknowledgement that successful empowerment relies on individuals collaboration and 'share consciousness' to bring about the change they strive for (Hur, 2006). Furthermore, when exploring the possibility of empowerment impacting on health, the role of engagement has been emphasised as an enabling factor (Laverack, 2006, Wallerstein, 2006, Woodall et al., 2010).

Throughout the literature on both PE and CE, a focal point has been the connection of empowerment development (PE and CE) to overcoming a need for a shift in power and a sense of control to be felt by the individual/community. This was described using differing definitions, as 'sense of control' (Mok, 2005) or perhaps 'leadership' (Goodman et al., 1998, Baker and Teaser-Polk, 1998) when discussing CE development.

The literature demonstrates how empowerment between the levels can be linked and how components across PE and CE can be highlighted in different ways, yet how to quantify and measure the evolvement of CE is not clear and there currently exists little evidence in the literature (Woodall et al., 2010). What has been highlighted however, is the context-specific nature of CE and that any research aiming to capture and measure its value must be explicit clear and sensitive to the surrounding context (Khwaja, 2005, NICE, 2008).

This chapter has reported on three key literature reviews which provided some initial indication that through the development of PE, CE may be able to be measured and valued and has begun to address the first research question of the thesis: how can CE be theorised as a measurable outcome? Research evidence however varies as to how best CE can evolve, with little consensus beyond the basic premise that some change in power relations should occur and facilitation and engagement with others are a necessity and any attempt to foster CE should take the impact of context into account. Overall, there is agreement that the direct involvement of the community is key and their ability to take control of matters of importance and their surrounding environment is paramount. Moreover, as mentioned in earlier in the chapter the direct link between different levels of empowerment remain unclear, with little understanding as to

the exact element that encourages one to become more involved with their community, developing a sense of belonging beyond their individual issues and embracing those around them. These different interpretations of empowerment and lack of cohesion appears to have hindered the full development of the concept.

However, this chapter has helped evidence an initial conceptualisation that can be taken forward in the thesis; that PE and CE may be interlinked and that CE can be interpreted as both an intermediate or surrogate outcome as a final outcome. It has the potential to act as a health-related concept (albeit negatively or positively). It can be treated as a surrogate interim measure and as a possible covariate in predicting health outcomes (Velentgas et al., 2013). As shown in NICE (2008), increasing CE and sense of control can act as a pathway to improved 'service', 'intermediate social outcomes' and 'health outcomes'. This central role of community participation, CE and control as processes and outcomes (here classed as 'intermediate social outcomes') which has the potential to link to improved 'health outcomes' can be adapted for the urban regeneration context of the thesis. As highlighted in Chapter 1, urban regeneration policy has increasingly emphasised the central role of communities within its delivery and that promoting CE could ultimately aide the success of urban regeneration programmes in achieving their aims and addressing health inequalities. Funding for CE promoting activities and actions are being built into urban regeneration programmes yet, as Tyler et al. (2010) and Popay et al. (2015) outlined, capturing CE as a measurable outcome of urban regeneration programmes (and potential intermediate non-health outcome) and understanding what mechanisms help or hinder CE promotion in urban regeneration has yet to be fully realised. Working within the urban regeneration context, this thesis will address these issues of cohesion and need for context specific interpretations of CE by identifying, measuring and valuing key CE elements, drawing on economic evaluation techniques to do so. Thus, it will add clarification to the discourse using examining health benefits of CE within an urban regeneration context. As shown within this chapter the current literature demonstrates that increased empowerment (either PE or CE) can be linked to increased 'health gains, in particular mental health such as sense of control, self-efficacy, self-esteem. In the reviews on health and empowerment by

Laverack (2006), Wallerstein (2006) and Woodall et al. (2010) it is clearly shown that individual mental health improvements can be linked to empowerment (such as self-efficacy, sense of control, sense of community). Additionally, these health improvements are prevalent throughout empowerment (PE and CE) literature as shown by Mok (2005), Johnson et al. (2005), Zimmerman (1995) and Sun et al. (2011), who highlight that increased self-esteem and sense of control over issues affecting their lives may ultimately empower individuals and lead them to seek to take a more active role in their environment and collaborate with others. Furthermore, if, as previously suggested in the work by Chavis and Wandersman (1990), Saegert and Winkel (1996), Mok (2005) and Zimmerman (1995), that PE could potentially lead to the development with CE as empowered individuals are enabled to collaborate and interact with others, then perhaps some measurement of CE health benefits can be undertaken utilising individual preferences and values.

What is evidence from the reviews is that the concept of empowerment has, to a certain extent, been adopted by practitioners of public health and health care research and practice as health provision has evolved into “a resource on both individual and societal levels” (Koelen and Lindstrom, 2005: 13). There is increased acceptance that health can now be affected by the circumstances and relationships that surround individuals and communities alike have contributed to this development, yet the full extent of how CE can affect health is still not known and remains a research gap with many challenges (Woodall et al., 2010).

“It can also be difficult to determine the effect a programme can have on individual and/or community health outcomes because the cause of any change may not be solely down to the empowering approach. This makes the task of determining any health outcomes a challenge from a methodological standpoint” (Woodall et al., 2010:19).

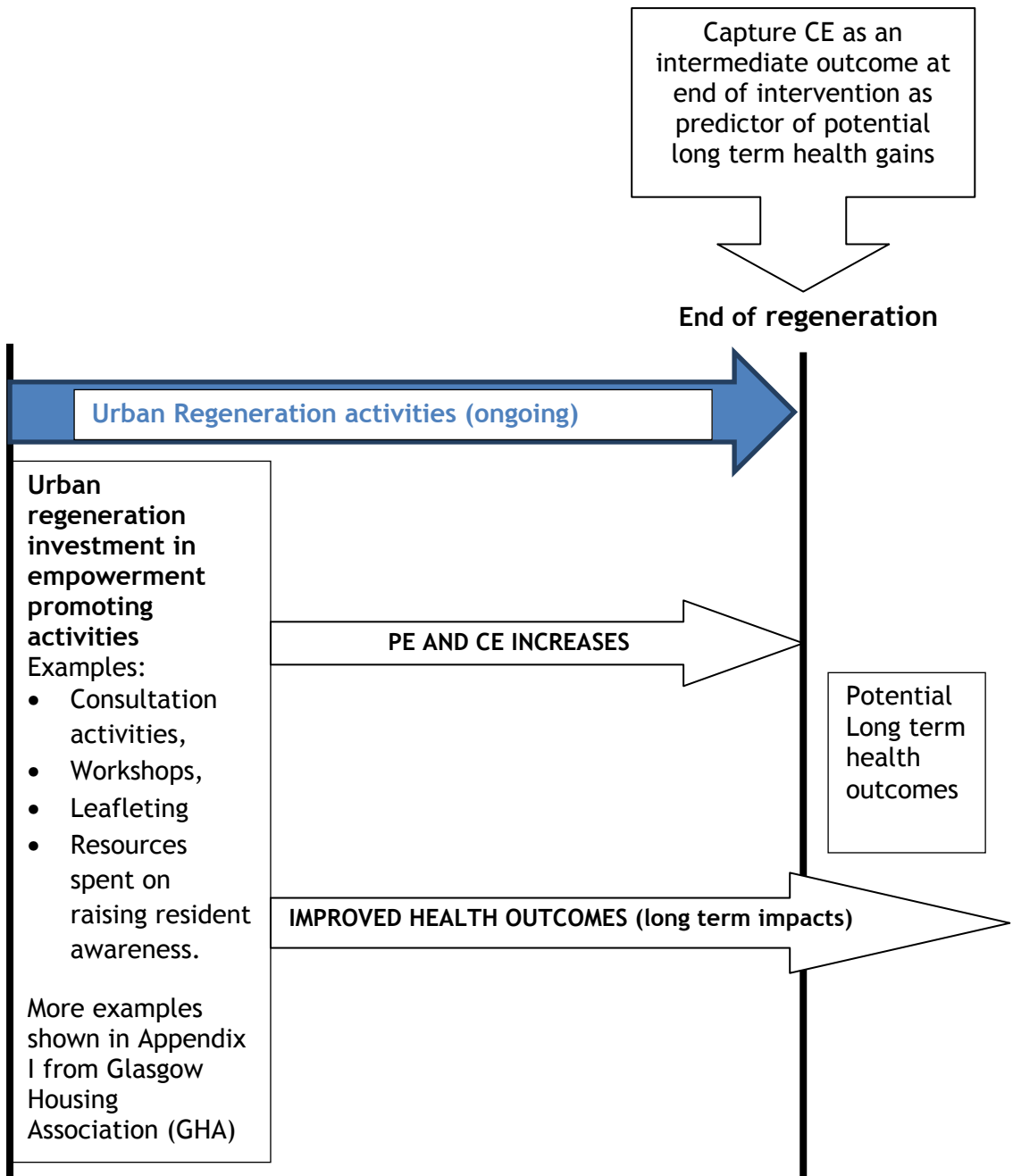
Therefore, the next step within this thesis is to conduct an in-depth, focussed search of the current evidence base to identify how empowerment is defined and promoted within urban regeneration programmes. This will provide the thesis with a clear understanding of the factors that enable and hinder CE development within urban regeneration. Before any economic evaluation can be

undertaken, it is imperative that we firstly define and establish how a highly complex and variable construct such as CE exists within the particular context of interest, urban regeneration and the mechanisms within urban regeneration programmes that help or hinder CE promotion. By asking ‘can urban regeneration lead to a sense of empowerment’, Chapter 3 will examine the existing literature base to understand what elements of CE are affected in urban regeneration and the processes of urban regeneration programmes that impact them.

Following Chapter 3 and building on the hypothesised link between health and empowerment, secondary data analyses will be conducted on available data collected from neighbourhoods in Greater Glasgow undergoing regeneration to test how whether in an urban regeneration programme, CE can be linked to health gains. This chapter has shown that whilst empowerment (PE and CE) can be linked to health improvements, what health gains are produced is dependent on how empowerment is constructed within that particular context. Therefore, to explore the ‘worthwhileness’ of investing in achieving CE as an outcome of urban regeneration programmes with the hope of this producing health gains, the link between health and CE within an urban regeneration study must be examined. This work is reported in Chapter 4.

From this chapter, it is possible to build a simplistic conceptual model as shown in Figure 2.5. Figure 2.5 shows that, as this chapter outlined, PE and CE may be interlinked and should be considered together as on a continuum. Furthermore, as will be explored in the thesis, CE may be considered a process leading to health gains and as an ‘intermediate non health outcome’ which, through its specific CE elements (identified in Chapters 3 and 4), can be measured and valued. It may be a predictor of future health gains yet to be fully seen in the urban regeneration programme as a PHI. This will be further examined in Chapter 4. The challenges of measuring and valuing outcomes of these programmes will be discussed in Chapter 5.

Figure 2.5: Conceptual diagram of CE as a process and outcome within urban regeneration



Chapter Three: Can Urban Regeneration programmes lead to a sense of empowerment? A systematic review with narrative synthesis

3.1 Introduction

As examined in Chapter 2, current literature indicates that empowerment, whether at an individual (PE) or community (CE) level, whilst being a desirable end in its own right, is also a means to an end as it can positively impact health, leading to health gains (Wallerstein, 2006, Woodall et al., 2010, Laverack, 2006). Chapter 2 also highlighted three key points: 1) empowerment (both PE and CE) is a construct the development of which depends on the context in which it is occurring; 2) PE and CE are interlinked therefore research on the later should not ignore the former, and 3) there is currently a lack of evidence on whether this link between empowerment and health is clearly present in an urban regeneration programme, the specific ‘context’ concerning this thesis.

Without a clear understanding of CE elements i.e. what empowerment comprises of when delivered as part of urban regeneration programmes and ‘*what-works*’ when striving to promote and foster CE, it will not be possible to further identify how, and if, investment in empowerment promotion within these programmes could lead to health gains and would indeed be considered a worthwhile use of resources. Therefore, the purpose of this literature review is to build upon Chapter 2’s identification of a link between empowerment and health and PE and CE to address research questions 3 and 3a namely ‘Can urban regeneration lead to a sense of empowerment?’ and ‘What are the main elements of CE in a specific context of urban regeneration?’ Identification, measurement and valuation of the main elements of CE would then facilitate the ability of decision makers to make informed judgements on the worthwhileness of investing in empowerment generating activities. This review was conducted between November 2012- March 2014.

3.2 Hypothesis

The hypothesis for this review is that urban regeneration programmes and the processes in their delivery can act as the catalyst to unite individuals, create community social cohesion and promote empowerment in both individuals (PE) and communities (CE). The research question to be answered by this review is therefore: Can urban regeneration lead to a sense of empowerment in affected residents/communities?

3.3 Systematic review methodology

The review followed guidance by Petticrew and Roberts (2006) and the Centre for Reviews and Dissemination (2009) who clearly advocate that in order to answer questions set for review it is necessary to 'frame' the review's search within some predetermined criteria. These criteria are a 'core principle' of systematic searching and review protocol (CRD, 2009). This allows researchers to distinguish between search results and identify those which will provide relevant evidence for the review.

However, the systematic searching required to address the research in this thesis needed to differ from the traditional systematic reviews for which Randomised Controlled Trials (RCTs) are considered the gold standard in a hierarchy of evidence (Petticrew and Roberts, 2006). The review team for this thesis (comprising the PhD researcher, Camilla Baba (CB) and her supervisors, Dr. Emma McIntosh (EM) and Professor Carol Tannahill (CT)) soon identified that in order to answer the review questions, qualitative, quantitative and mixed-methods studies would need to be included. Furthermore, due to the various huge number of multi-faceted definitions and interpretations of 'empowerment' these studies would likely be identified across a broad spectrum of disciplines and hence databases. As Sandelowski et al. (2006) and Mays et al. (2005) highlight, there has been an increase in the role and importance of qualitative research across the social sciences with policy makers more frequently drawing on a myriad of sources of evidence to make decisions. That is, they require the systematic searches to look beyond their 'traditional' focus on answering questions of 'effectiveness', determining what interventions 'work' to also consider other details that could be derived from the searches such as

contextual factors like whether some population subgroups are more affected than others by the intervention (Harden, 2010). These considerations allow for more generalisable conclusions to be drawn and a move away from evidence produced being time or place dependent (Mays et al., 2005).

A full discussion on how this affected the design of the critical appraisal and synthesis of the review can be found in Section 3.6 of this Chapter. Further guidance around this decision was sought during attendance at the ‘Systematic review of Complex Interventions’ course provided by the MRC/CSO Social and Public Health Sciences Unit (Glasgow) April 16-17th 2013. Course leaders advised that as urban regeneration programmes are a form of complex intervention, mixed methods are commonly applied and drawing on their experiences, reviews should not be limited to including quantitative studies only.

3.3.1 Inclusion/exclusion criterion

Petticrew and Roberts’ (2006) examination of the methods for conducting systematic reviews out-with a purely medical/clinical setting further exemplifies how systematic review methodology can be taken beyond RCTs to allow large areas of research to be examined and interpreted, using the PICO model (population, intervention, comparison and outcome) to ‘frame’ the research question (CRD, 2009). Drawing on this guidance, the review team for this thesis (CB, EM, CT) designed a PICO inclusion criteria specification using this template, with the addition of ‘cultural and linguistic range’ and ‘time and place’ components to ensure an inclusive and extensive review could be conducted. The PICO criterion developed to address the following research question ‘*Can urban regeneration lead to a sense of empowerment in affected residents/communities?*’ is shown below.

3.3.1.1 PICO Criterion

Population: Urban communities/neighbourhood residents (geographically-bounded entities) currently inhabiting areas undergoing urban regeneration. This excludes groups whose ‘community’ is comprised of other combining factors such as disease, sexual preference and political communities (EU).

Intervention: Regeneration and renewal in urban (inner-city) neighbourhoods (opposed to the empowerment potentially created in rural, more remote areas).

Time and place: All studies were used regardless of when the study was completed and the time-line of the intervention as no previous work had previously been identified to help construct a specific time-frame. Furthermore, as the focal point of this review, only studies that included urban regeneration projects that were in an advanced stage of development or completed were included. This would allow for a more substantial time-frame for the development of empowerment.

Cultural and Linguistic range: The focus of the studies was placed on those conducted in or translated into English.

Outcomes: Included studies contained some attempt to illustrate the growth of PE or CE as a direct result of urban regeneration projects. Examples of outcomes may include but are not limited to:

- Increased sense of control;
- Improved sense of community;
- Increased participation in community activities;
- Increased political autonomy;
- Improved mental and physical wellbeing;
- Connections/interactions with neighbours.

Comparison/Study design: Studies that reported findings both during and after the urban regeneration projects had been completed were included. Studies did not need to include control groups.

Exclusion Criteria: The following studies were not included:

- Studies that do not include urban regeneration development;
- General discussion papers that are not presenting data/evidence on empowerment (and/or its attributes);
- Studies that did not have human subjects;
- Studies that examine empowerment in non-urban regeneration contexts.

3.3.2 Preliminary Search Strategy

Guidance from a specialist information scientist at the University of Glasgow library services was sought regularly throughout the review. The information scientist recommended that a preliminary test search should be carried out to gather evidence as to which databases were most useful and how to refine the search terms. The search targeted academic research, grey literature and studies conducted by research bodies and governmental work. Following discussions with the information scientist, potential databases for use were canvassed and profiled into an excel spreadsheet indicating how to access them, subjects covered, dates of materials held and the geographic coverage of materials. A snapshot of this database is provided in Figure 3.1 below

Figure 3.1: Profiling of databases (snapshot)

	A	B	C	D	E	F
1	Database Name	Dates Included	Materials	Geographical coverage	Subjects covered	Platform
2	ASSIA- Applied Social Sciences Index and Abstracts	1987-current	500 journals	UK, USA, Nigeria, Netherlands, Australia, Ireland, Canada, Romania, Finland, Sweden, Zimbabwe, Denmark, Poland, Israel, Slovenia, India	Education Family Gerontology Health services Housing Mental health services Nursing Social work Substance abuse	ProQuest
3	British Humanities Index (BHI)	1962- current	Journals, newspapers and magazines	UK and English speaking countries	Archeology, Current Affairs, Education, Economics, Environment, Gender studies, History, Law, Political Science, Religion	ProQuest
4	Business Source Premier	Full text for sources dating back to 1965 and cited references from 1998	2100 journals, company profiles, country economic reports, industry reports, market research reports, SWOT Analyses, conference papers, case-studies, peer-reviewed journals, seminars videos, interviews (executive and analyst), market-research reports	Worldwide coverage	Industrial Engineering, Accounting and tax, Business Finance, Business Education, Business History, Management, Ethics, Public Interest Law, Economics, Public Policy, Psychology, Sociology, Computer Science, Law, Life Sciences, Mathematics, Public Health, Earth and Atmospheric Sciences, Business Models, Political Sciences, Building and Construction, Architecture, Area Studies, Commercial Law, Social Science Theory and Law, Labour and Employment, Consumer behaviour and theory, Housing and Housing policy, Research methodology, Social security, Community development	EBSCOhost

The identification of studies was carried out through manual and electronic searching strategies. Initially, electronic searches were carried out through the electronic databases using the search terms listed below. A hierarchy of search terms was used for this preliminary search stage. One main term relating to urban regeneration was combined with other search terms relating to empowerment or the concept of community. The initial inclusion criterion (as discussed previously) was broad to allow for the assessment of as many studies as possible. Furthermore, following the work conducted in Chapter 2, terms which applied to both PE and CE were included as the review team felt that the similarity and interlinking between these two concepts meant it would be too narrow to only look at empowerment affecting communities. The following search strings were used in these the initial database searches.

Main Terms

- A. (“Urban regeneration” OR renewal)
- B. (build* OR construct* OR rebuild*)
- C. (neighbourhood OR area OR “physical environment”)
- D. (rehouse* OR displace* OR remodel* OR “housing improvement”)
- E. (home* OR house* OR domestic)
- F. (“Social housing”)
- G. (demolition OR clear*)

Additional Terms

- 1. AND (power* OR control* OR command OR mastery)
- 2. AND (authority OR govern OR influence OR leadership)
- 3. AND “Social Justice”
- 4. AND (consumer satisfaction OR interpersonal OR consumer participation)
- 5. AND (“Self-worth” OR esteem OR confidence OR dignity)
- 6. AND (happi* OR satisf* OR confiden*)
- 7. AND (pride OR proud OR digni* OR assure*)
- 8. AND (trust* OR respect OR support*)
- 9. AND (connect* OR collaborat* OR partner*)
- 10. AND (facilitate* OR engage* OR participat*)
- 11. AND (associate OR join*)
- 12. AND (network OR involve* OR team*)
- 13. AND (access* OR approach OR public)
- 14. AND (own* OR control OR capacity OR aware*)
- 15. AND (labor* OR labour*)

- 16.AND (comm* OR resident* OR public)
- 17.AND (cumul* OR collate* OR common)
- 18.AND (citizen OR habitant OR inhabitant OR tenant OR occup*)
- 19.AND (dweller OR landlord)
- 20.AND (precinct OR reside*)
- 21.AND (collect* OR cooperative OR group OR gather* OR unit* OR share* OR assemble*)
- 22.AND (popul* OR people)

For example, A + 1 was the first search.

Following advice from the information scientist, 230 searches were carried out using two platforms: ProQuest (formally CSA illumine) and EBSCOhost, allowing multiple database searching simultaneously (Table 3.1). This was recommended as an efficient way to start such a complex review and ensure the right search strategy was developed to use for the main search.

Table 3.1 Platforms used

Platform (database host)	Databases accessed
ProQuest	ASSIA, BHI, IBSS, ProQuest Dissertations and Theses (A&I, UK& Ireland), Sociological Abstracts, Social Services Abstracts
EBSCOhost	Business Source Premier, CINAHL, EconLit, MEDLINE, Psychology and Behavioral Sciences Collection, PsycINFO

3.3.3 Preliminary Search Strategy Results

An initial rapid screening process was undertaken where the titles and abstracts of all materials were examined. Those, who on initial examination, appeared to fit the inclusion criterion were highlighted and details were taken of the database from which they were sourced, year of publication and the keywords/terms submitted by the authors or applied by the database. This then provided justification of the following amendments to be carried through for the second stage of searching:

- Exclusion of databases that found no relevant materials;
- Refinement of search terms;
- Identification of other search terms;
- Explicit date range being set.

Guidance was again sought at this stage from the information scientist and course leaders from the systematic reviews of complex interventions. A number of amendments were identified and they are detailed below.

3.3.4 Amendments

Databases that did not contain material suitable for the review (as identified in the test search) were excluded for the main stage of the search whilst databases that produced suitable material in the test search were then searched individually to ensure a more in-depth and extensive search was performed. Once articles were identified, it was evident that there was some overlap in results between the different search strings with many of the results being identified in up to 10 of the searches. It was recommended by the information scientist that combining search terms would allow more time for more in-depth subsequent stages of the review. Additionally, 'key terms/words' from results of this initial search stage were included. These were provided by authors upon publication or assigned by the databases. All changes made to existing search terms and the overall search strategy are detailed below. A specific date range was also set following the test search as all resources screened and fitting the inclusion criterion dated from 1960 onwards, thus this date range was chosen and applied to later searches.

Main search terms:

- A. ("urban regeneration" OR "urban renewal" OR "neighbourhood renewal" OR "urban planning")
- B. ("neighbourhood improve*" OR "housing initiative" OR "neighbourhood initiative")
- C. (demolition OR "housing improvement")

Additional search terms:

- 1. AND (empowerment OR "personal empowerment" OR "psychological empowerment" OR "community empowerment")
- 2. AND ("sense of community" OR "community cohesion")
- 3. AND ("self efficacy" OR "collective efficacy")
- 4. AND ("community development" OR "community particip*" OR "citizen particip*" OR "tenant particip*")
- 5. AND (power* OR "sense of control")

6. AND (“self-worth” OR “self-esteem” OR confiden*)
7. AND (happi* OR satisf*)
8. AND (pride OR proud OR “civic pride”)
9. AND (trust*)
10. AND (collaborat*)
11. AND (facilitate* OR engage*)
12. AND (network* OR involve* OR team*)
13. AND (own* OR “community capacity” OR aware*)

These terms were combined. Similarly to the preliminary search strategy, this is a hierarchy of search terms and thus, ‘Main term A’ + ‘Additional term 1’ was the first search.

Other new databases were also identified following further discussion with the information scientist and guidance from evidence synthesis experts of the systematic review course. These are listed in Table 3.2.

Table 3.2 Databases used

Platform (database host)	Databases accessed
ProQuest	ASSIA, IBSS, Sociological Abstracts, Social Services Abstracts,
EBSCOhost	Psychology and Behavioral Sciences Collection,
N/A	SocIndex (accessed through EBSCOhost); Copac, OpenGrey, Social Care Institute for Excellence (SCIE), Scopus, Joseph Rowntree Foundation (JRF), and Web of Science (WoS).

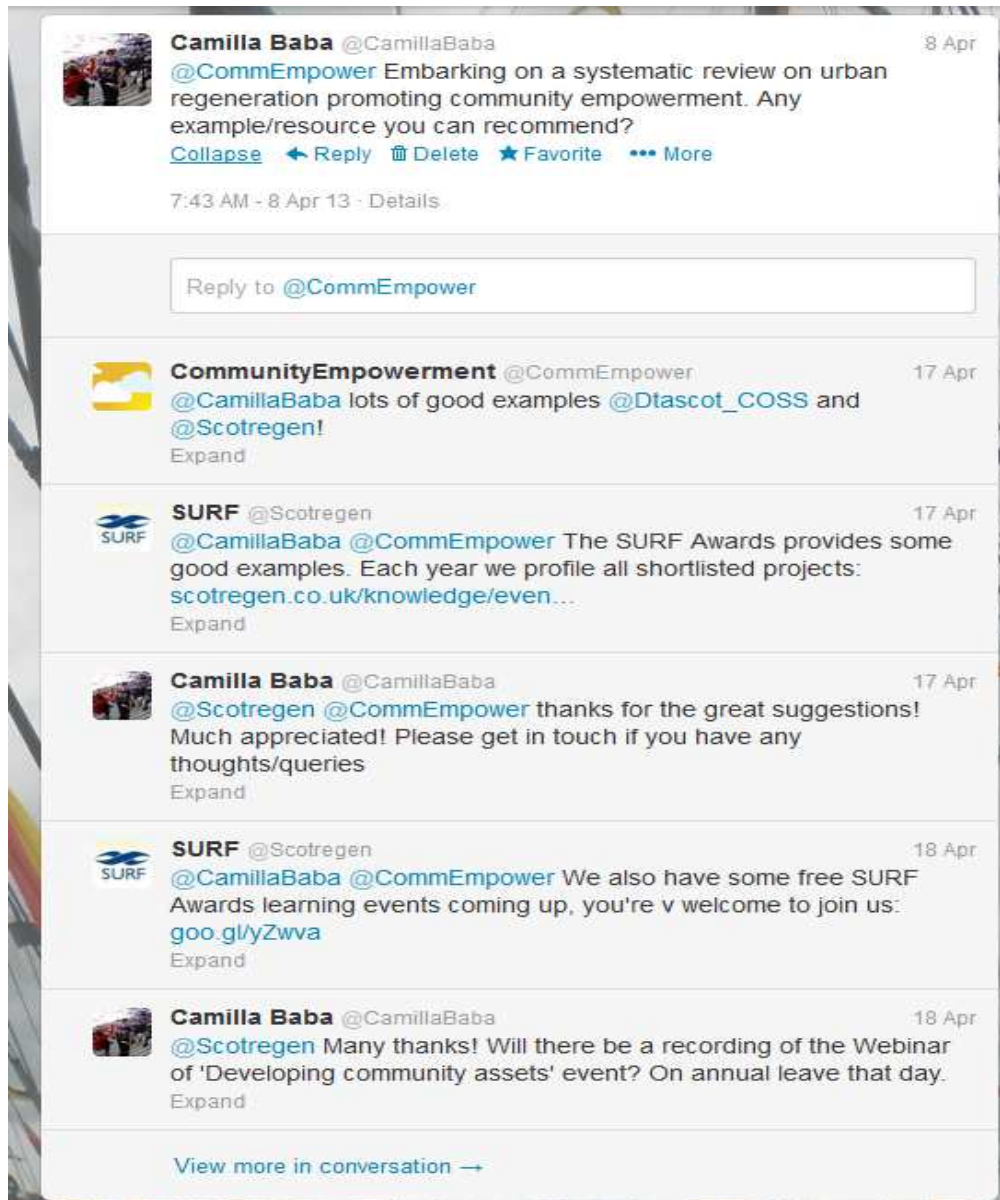
3.3.5 Additional Searching methods: Social Media

The social media network ‘Twitter’ (<https://twitter.com/?lang=en-gb>) was incorporated throughout the search, serving to inform a wider community of the ongoing systematic review requesting suggestions of further resources that should be included.

The Scottish Government’s Community Empowerment twitter page (<https://twitter.com/CommEmpower?lang=en-gb>) was contacted directly due to their current work on the ‘Community Empowerment and Renewal Bill’ (Scottish Government, 2013a). This correspondence is shown in Figure 3.2. The recommended resources; Scotland’s Independent Regeneration Network (SURF,

2013) and the Community Ownership Support Services (COSS, 2013), were also searched when the citation and bibliographic searches were undertaken.

Figure 3.2: Twitter correspondence



3.4 Main Search results

From the searches of databases shown in Table 3.2, 14,448 records were identified (not including duplications). A three stage screening process was then applied to the search utilising the predetermined inclusion/exclusion criteria as outlined:

1. Screening by title - reject if not relevant to the subject area (urban regeneration and renewal);
2. Screening by title and abstract - determine whether to accept or reject based on whether the information presented meets the inclusion criteria. NB: those for whom an abstract could not be located and more information is needed were not rejected at this stage;
3. Screening by 2nd and 3rd reviewers- A random sample of results was selected to be sampled by the 2nd/3rd reviewers (EM and CT).

All three reviewers provided justification for why they accepted/rejected results. However, early discussions revealed a general consensus that the current inclusion criterion was too broad and vague thereby addressing issues beyond the scope of this review. There was discussion related to the need for more details to be included in the inclusion criteria and, potentially, find a model on which to base it that addressed the challenges of a review examining complex interventions and including both quantitative and qualitative studies. There was agreement among the reviewers that the inclusion criteria required some modification. It was agreed that modifications discussed in Section 3.5 were required and that all results would be re-screened and another sample would be selected for the 2nd and 3rd reviewers. The following section outlines the revision of the inclusion criterion devised for the systematic review.

3.5 Modified Inclusion Criteria

The challenge of applying systematic review techniques and methodology to research on complex interventions such as urban regeneration is that there are numerous components that need to be considered. Indeed, such components have often been referred to as “complex interventions that may impact upon social determinants of population health and wellbeing. Measuring the effects of such interventions is notoriously challenging” (Egan et al., 2010:1).

“Complex interventions are widely used in the health service, in public health practice, and in areas of social policy such as education, transport and housing that have important health consequences [...] defined as interventions with several interacting components, they present a number of special problems for evaluators, in addition to

the practical and methodological difficulties that any successful evaluation must overcome” (MRC, 2008:6).

Complex interventions such as urban regeneration programmes are sensitive to their context, thus creating difficulties with regards to generalisation of their implementation (MRC, 2008). Thus, in order to further refine the inclusion/exclusion criterion, the review team decided to follow Petticrew and Roberts’ (2006) more adapted version of PICO which incorporates the social element of complex interventions that can impact the intervention’s delivery. Petticrew and Roberts add ‘context’ to create **PICOCS**. Previously they were concerned that enforcing more parameters or being too restrictive would limit the search. However, the information scientist advised that as the purpose of this review is not ‘effectiveness’ and given the complexity of empowerment and urban regeneration, the components of ‘context’ and ‘study design’ should be added to the inclusion criterion.

“We often need to know more than just “what works” - we need robust data on how and why it works; and if it “works”, we need enough information to know whether this was a reflection of the environment within which it was developed and delivered” (Petticrew and Roberts, 2006: 43).

Given the justification outlined above, PICOCS was therefore deemed to be an appropriate strategy for this review on the development of empowerment within an urban regeneration intervention context. It was therefore essential that the context and setting of the intervention were commented on and considered in the review. It was imperative that the setting in which empowerment (PE and CE) was being reported was incorporated for consideration so an understanding of what influences a sense of empowerment is developed.

3.5.1 PICOCS Criteria used for the main literature search

Population: Urban communities/neighbourhood residents (geographically-bounded entities) currently inhabiting areas undergoing urban regeneration. This excludes groups whose 'community' is comprised of other combining factors such as disease, sexual preference and political communities (EU).

Intervention: The review is of the effect of regeneration and renewal processes in urban (inner-city) neighbourhoods rather than the empowerment potentially created in rural, more remote areas. All interventions must indicate some physical alteration to local neighbourhood area/environment or to participants housing or immediate surroundings as part of a larger regeneration effort. The study must directly refer to urban regeneration work or its planning process.

Comparison: No comparison is required however; the interventions should infer that changes, effects or outcomes noted are because of the urban regeneration intervention being undertaken. This must be clear from the study. The focus is on empowerment (PE or CE) as an outcome of an urban regeneration intervention, not as a result of other contexts.

Outcomes: Studies must contain some attempt to illustrate the growth of PE or CE as a direct result of urban regeneration projects. Examples of outcomes may include but are not limited to:

- Increased sense of control;
- Improved sense of community;
- Increased participation in community activities or planning processes;
- Increased political autonomy;
- Improved mental and physical wellbeing;
- Connections/interactions with neighbours;

Context: Within the study, there must be a clear outline of how the urban regeneration was undertaken/ delivered. It is not merely enough to suggest that the intervention was successful, the review is attempting to clearly identify what processes or impacts can aide or hinder the development of empowerment

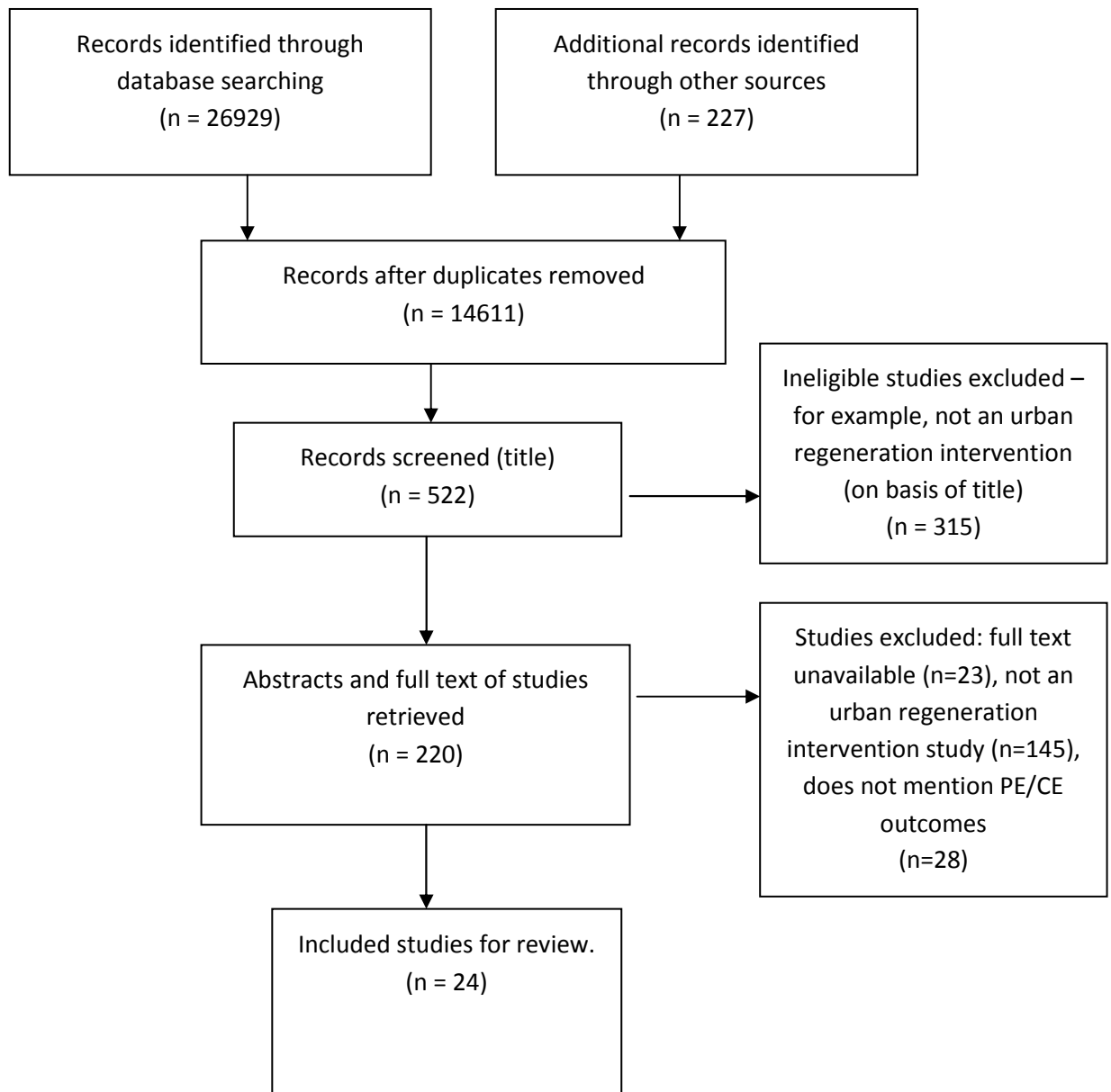
within urban regeneration. The study must acknowledge and take into account, those conditions that may have altered the results of the intervention thus, allowing the researcher to clearly isolate those outcomes of interest and appropriate to the review. Ignoring the social setting of the intervention will not be accepted as it fails to provide the required contextual element.

Study design: There is no preferred study design however, the review will not include those studies that are solely descriptive studies or theorised bodies of work with no clear link to primary case studies. A control group is not required in the studies. Both randomised study designs (RCTs and cluster RCTs) and studies that have not been randomised or are observational studies will be accepted. Furthermore all accepted studies must clearly define who the participants/ target population are and how the intervention was undertaken. Retrospective studies will be included if they clearly define the intervention undertaken that they are reporting on.

3.5.2 Results using the revised PICOCS criterion

Following the creation of the new inclusion criterion a rescreening of the results of the search strategy was conducted by the reviewers. The main reviewer (CB) would screen all results, and the second and third reviewers (EM, CT) a sample of the results. An example of this can be seen in Appendix A. Screening/scanning of the results titles and abstracts determined whether studies should be included. However, an inclusion policy was applied for those studies where abstracts were not available or where reviewers agreed it was difficult to determine if the study fully met the inclusion criteria due to inadequate description of methodology used. As such, this approach avoided the possibility of omitting research of potential value to the review and its synthesis of findings.

The rescreening produced the results illustrated in Figure 3.3. Appendix B includes a full list of the excluded studies.

Figure 3.3: Results of systematic review

Following extensive searching 24 studies met the inclusion criteria. Three studies reported quantitative data (Nienhuis et al., 2011, Alaimo et al., 2010, Williams, 1969), four studies reported quantitative and qualitative data (Allen, 2000, Lawless and Pearson, 2012, Muir, 2004, Stubbs et al., 2005) and 17 studies reported qualitative data only (Muir and Rhodes, 2008, Martin, 2007, Hibbitt et al., 2001, Colenutt and Cutten, 1994, Bowie et al., 2005, Khakee and Kullander, 2003, Gosling, 2008, Adamson and Bromiley, 2008, Blakeley and Evans, 2009, Pollock and Sharp, 2012, Deptford City Challenge Evaluation Project, 1994, Keene and Ruel, 2013, McCarthy, 1997, Soen, 1981, Allen et al., 2008,

McWilliams, 2004, Mathers et al., 2008). However, it should be noted that studies by Alaimo et al. (2010) and Allen et al. (2008) are part of the same wider intervention, separately presenting quantitative and qualitative findings. Following discussion amongst the reviewers (CB, EM, CT), it was agreed that for the purpose of this review and data extraction, the studies should be assessed separately as they present two separate studies within the intervention, using two different groups of participants, with no overlap and reported different study aims. A list of included studies is shown in Appendix C.

Data extraction and quality appraisal was carried out by CB then checked and discussed with a second reviewer (EM or CT). The details of the critical appraisal stage is presented in Section 3.6. The extraction was entered into a Microsoft Excel spreadsheet. PE and CE related findings were extracted, alongside details of the study's author and year, location, aim, study design, study sample characteristics, analysis and quality. The percentage grades shown for study quality were elicited based on the Mixed Methods Appraisal Tool (MMAT), details of which are discussed in Section 3.6. A summary table for the included studies is shown in Table 3.2. An appendix of the data extraction can be found in Appendix D.

3.6 Critical Appraisal

3.6.1 Quality assessment of included studies

The review team agreed that critical appraisal of studies is an integral part of the systematic searching process and, as such, should be included in this review (CRD, 2009). However, the application of critical appraisal tools and techniques to this review required particular consideration due the inclusion of both quantitative and qualitative evidence in the review. As previously discussed, the purpose of this review was to identify *how can urban regeneration lead to a sense of empowerment?* It aimed to present and summarise findings, clarifying key components of PE and CE that are affected in the context of urban regeneration programmes. In traditional systematic reviews a hierarchy of evidence is often referred to, with RCTs regarded as the highest standard of research available (CRD, 2009). Yet when considering a wide range of research types there was no clear hierarchy of evidence relevant to all methods or types

of studies to draw upon (Petticrew and Roberts, 2006, Mays et al., 2005, Sandelowski et al., 2006, Spencer et al., 2003). Moreover, whilst critical appraisal techniques to assess the quality of quantitative studies have been well developed over time (Dixon-Woods et al., 2007), with the use of structured approaches (commonly ranking studies using checklists that assess quality based on the internal and external validity of the study design), the incorporation of qualitative studies to the reviews has only become more popular and generally accepted in recent times and often questions the appropriateness of applying these same numerical tools.

“Qualitative research aims to provide an in-depth understanding of people’s experiences, perspectives and histories in the context of their personal circumstances or settings [...] exploring phenomena from the perspective of those being studied; with the use of unstructured methods which are sensitive to the social context of the study; the capture of data which are detailed, rich and complex” (Spencer et al., 2003:17).

There is a growing concern in the literature as to whether it is suitable to apply the same techniques and tools to assess qualitative research as those used on quantitative research (Pluye, 2015, CRD, 2009, Petticrew and Roberts, 2006, MacInnes, 2009). Indeed some researchers ascribe to an extreme view that no tool should be utilised for critical appraisal, as this restricts the interpretation of the evidence (Hannes et al., 2013). More commonly however it is accepted that a form of appraisal is required (Petticrew and Roberts, 2006). However, it is strongly advocated that whilst it may be good practice “to be able to distinguish ‘good quality’ from ‘poor quality’ qualitative research, just as one does for quantitative research” (Petticrew and Roberts, 2006:151), it may be inappropriate to use a metric scale as a study may not directly answer the review question/aim but does provide insights for the findings. Instead, there is an appreciation in the literature for exercising caution over exclusion of qualitative studies on quality alone, as researchers should continually question if the evidence the study presents adds (albeit in a limited capacity) to the review,

with the understanding that studies that are ‘fatally flawed’ (Mays et al., 2005) have previously been excluded.

For this review, it was agreed by the research team that some form of critical appraisal would be a useful exercise (qualitative, quantitative and mixed-methods). As previously stated, the review identified a range of study methodology, qualitative, quantitative and studies drawing on both qualitative and quantitative methods. Synthesising different types of evidence in the same review has been problematic as highlighted within previous systematic reviews (Petticrew and Roberts, 2006, Mays et al., 2005, Sandelowski et al., 2006, Spencer et al., 2003, Dixon-Woods et al., 2007). Different appraisal methods produce different presentation or interpretation of findings thus, complicating the undertaking of synthesising the findings. Commonly findings are converted into one form for (qualitative or quantitative) to ease analysis. Converting all findings into weights or probability measures (Bayesian meta-analysis) is particularly relevant for a ‘decision support’ approach review; where the aim is to “reach a decision in the particular policy or management context” (Mays et al., 2005:7) and findings need to be weighted against one another. However, given the breadth of disciplines combined with qualitative/quantitative data mix this review took a ‘knowledge support’ approach where the aim was to create a summary of the evidence available with the potential to identify possible explanations from different bodies of work (Mays et al., 2005). As such, it was deemed appropriate to use a critical appraisal tool that assesses quality of both qualitative and quantitative research (and the possibility of mixed methods studies) in a qualitative manner without the use of a ‘hierarchy of evidence’.

3.6.2 Mixed Methods Appraisal Tool (MMAT)

The Mixed Methods Appraisal Tool (MMAT) developed by the Centre for Participatory Research at McGill University, Canada was used (Pace et al., 2012). Due to the tool's inclusion of criteria across research design types, it allows researchers to appraise a range of study types alongside one another and provides a means of scoring the study using the tool's ‘scoring metrics’ However, the authors caution that this score is only to be used in combination with the descriptive appraisal produced for each study and is not applicable as the sole basis of an appraisal decision. The full critical appraisal criteria is shown in

Appendix E and Figure 3.4 provides the overview of each quality criteria assessed. The main reviewer (CB) appraised all 24 included studies using the MMAT tool. The two second reviewers each checked the data extraction and subsequent critical appraisal of 5 studies independently to ensure consistence and agreement with the appraisals being determined. No disagreements between reviewers were noted however, upon the completion of the appraisals (and their checks), the reviewers discussed a concern regarding the overall quality of the studies. As shown in Table 3.2, study quality varied considerably. Whilst three studies scored 100%, two scored 0%, five scored 25% 10 scored 50% and 4 scored 75%. However, discussions on the two mixed-methods studies which scored 0% (Allen, 2000, Muir, 2004) led to a decision not to exclude the studies as in both the authors stated that the findings presented had a 'greater emphasis' on the qualitative findings thus, providing a reason for the lack of information on the quantitative research undertaken. Despite this assessment and agreement not to exclude any studies, the reviewers agreed that missing details failing to fully address all parts of the criteria could be a limitation of the review. Yet, none of the studies were viewed as being fatally flawed and they concluded that all studies provided vital information. The full critical appraisal is shown in Appendix F.

Figure 3.4 MMAT (Pace et al., 2012)

Types of mixed methods study components or primary studies	Methodological quality criteria (see tutorial for definitions and examples)	Responses			
		Yes	No	Can't tell	Comments
Screening questions (for all types)	• Are there clear qualitative and quantitative research questions (or objectives*), or a clear mixed methods question (or objective*)?				
	• Do the collected data allow address the research question (objective)? E.g., consider whether the follow-up period is long enough for the outcome to occur (for longitudinal studies or study components).				
	<i>Further appraisal may be not feasible or appropriate when the answer is 'No' or 'Can't tell' to one or both screening questions.</i>				
1. Qualitative	1.1. Are the sources of qualitative data (archives, documents, informants, observations) relevant to address the research question (objective)?				
	1.2. Is the process for analyzing qualitative data relevant to address the research question (objective)?				
	1.3. Is appropriate consideration given to how findings relate to the context, e.g., the setting, in which the data were collected?				
	1.4. Is appropriate consideration given to how findings relate to researchers' influence, e.g., through their interactions with participants?				
2. Quantitative randomized controlled (trials)	2.1. Is there a clear description of the randomization (or an appropriate sequence generation)?				
	2.2. Is there a clear description of the allocation concealment (or blinding when applicable)?				
	2.3. Are there complete outcome data (80% or above)?				
	2.4. Is there low withdrawal/drop-out (below 20%)?				
3. Quantitative non-randomized	3.1. Are participants (organizations) recruited in a way that minimizes selection bias?				
	3.2. Are measurements appropriate (clear origin, or validity known, or standard instrument; and absence of contamination between groups when appropriate) regarding the exposure/intervention and outcomes?				
	3.3. In the groups being compared (exposed vs. non-exposed; with intervention vs. without; cases vs. controls), are the participants comparable, or do researchers take into account (control for) the difference between these groups?				
	3.4. Are there complete outcome data (80% or above), and, when applicable, an acceptable response rate (60% or above), or an acceptable follow-up rate for cohort studies (depending on the duration of follow-up)?				
4. Quantitative descriptive	4.1. Is the sampling strategy relevant to address the quantitative research question (quantitative aspect of the mixed methods question)?				
	4.2. Is the sample representative of the population understudy?				
	4.3. Are measurements appropriate (clear origin, or validity known, or standard instrument)?				
	4.4. Is there an acceptable response rate (60% or above)?				
5. Mixed methods	5.1. Is the mixed methods research design relevant to address the qualitative and quantitative research questions (or objectives), or the qualitative and quantitative aspects of the mixed methods question (or objective)?				
	5.2. Is the integration of qualitative and quantitative data (or results*) relevant to address the research question (objective)?				
	5.3. Is appropriate consideration given to the limitations associated with this integration, e.g., the divergence of qualitative and quantitative data (or results*) in a triangulation design?				
	<i>Criteria for the qualitative component (1.1 to 1.4), and appropriate criteria for the quantitative component (2.1 to 2.4, or 3.1 to 3.4, or 4.1 to 4.4), must be also applied.</i>				

*These two items are not considered as double-barreled items since in mixed methods research, (1) there may be research questions (quantitative research) or research objectives (qualitative research), and (2) data may be integrated, and/or qualitative findings and quantitative results can be integrated.

Table 3.2 Summary of included studies

Author Year	Setting	Quality	Data collection	Overview of findings
ADAMSON, D. & BROMILEY, R. 2008	Wales, 9 regeneration areas. Programme by Welsh Assembly Government to promote local engagement and empowerment of multi-agency partnerships; community audit/development plan/action plan.	50%	Semi-structured interviews (n=51), one group discussion (n=9)	Evidence of agencies experiencing resource difficulties in supporting multiple partnerships. Limited evidence of programme 'bending' or major redesign as a result of partnership processes. Community members are willing and able to take part in effective decision-making at the local level, it would appear that agencies have not responded effectively to this.
ALAIMO, K., REISCHL, T. M. & ALLEN, J. O. 2010	Flint, Michigan. Community garden and beautification programmes and neighbourhood meetings as part of wider neighbourhood development programme (NVPC).	100%	Cross-sectional telephone survey (n=1916)	Having a household member participate in community gardening/beautification and/or neighbourhood meetings was associated with more positive perceptions of bonding social capital, linking social capital, and the existence of positive neighbourhood norms and values. Household participation measures had stronger associations with perceptions of social capital than neighbourhood -level participation measures.
ALLEN, J. O., ALAIMO, K., ELAM, D. & PERRY, E. 2008	Flint, Michigan. 2 Community garden programmes with semiformal youth programmes as part of wider neighbourhood development programme (NVPC)	100%	Participant observation, photography, semi-structured interviews (n=33)	Findings suggest that neighbourhood community garden programmes can positively influence development of disadvantaged youth through r constructive activities, contributions to the community, relationship and interpersonal skill development, informal social control, exploring cognitive and behavioural competence.
ALLEN, T. 2000.	Local authority estate undergoing physical renewal through estate action (110 house undergoing refurbishment)	0%	Survey with householders (n=55) subsequent interviews (n=16)	Findings showed that partnerships may be met with muted response as it fails to meet the concerns and aspirations of the individual tenant. It identifies that there is potential for genuine empowerment and improved well-being when there is the opportunity for increased personal control.
BLAKELEY, G. & EVANS, B. 2009	East Manchester, scheme of urban regeneration in which participation was 'officially encouraged' through	50%	Semi-structured interviews (n=15), focus groups	Study identifies that the most 'powerful' explanation for people becoming engaged and involved is the desire to re-create a community which they feel has been undermined by other stakeholders and public agencies.

	partnerships		(n=unknown) survey (n=276)	
BOWIE, J., FARFEL, M. & MORAN, H. 2005	East Baltimore, neighbourhoods experiencing urban redevelopment (demolition and gut rehabilitation)	100%	Focus groups (n=37)	The lack of involvement that residents had in planning redevelopment activities and the disregard for inconveniences experienced from demolition and gut rehabilitation led to their feelings of limited control over their surroundings. Nearly all reported that they wanted to be involved in the planning for future neighbourhood urban redevelopment in their neighbourhoods; only 3 had ever contributed/been invited to participate in past planning efforts.
COLENUTT, B. & CUTTEN, A. 1994	UK-wide, 3 case study areas undergoing regeneration	25%	Interviews (n= not stated)	Findings show that participants feel ill equipped to participate in local activities and decision-making. More capacity-building resources are suggested. Flexibility is required in collaboration. Participants report feelings of exclusion from unavailability to attend and efforts are dominated by other stakeholders.
DEPTFORD CITY CHALLENGE EVALUATION PROJECT 1994	Deptford, London undergoing urban regeneration (reports on creation of partnerships and forums)	25%	Focus groups, participant observations interviews(n= not stated)	Lack of structure in forums and lack of awareness and knowledge resulted in few residents being involved in local activities. Isolation from the decision-making process and lack of influence linked by authors to lack of empowerment. Recommends future efforts concentrate on means for collaboration and partnership with the local community.
GOSLING, V. K. 2008	Housing estate in northern England undergoing regeneration	50%	1 st - Participant observation, focus groups, interviews; 2 nd - semi- structured interviews (n=21)	Study highlighted 4 problems that had been caused, or significantly increased, by regeneration; feelings of powerlessness in the regeneration process; increased levels of stress and uncertainty; concerns about being unable to return to the estate; the current decline of both resident numbers and community groups. Even though meetings are held, they felt their feelings were not taken seriously and that top-down agendas are prioritised.
HIBBITT, K., JONES, P. & MEEGAN, R. 2001	Merseyside, 2 areas undergoing regeneration (Leasowe outer estate and Bootle/Seaforth/Orrel)	50%	Interviews (n= not stated)	Motivations for involvement varied. Building trust highlighted as an outcome for their involvement and existing mistrust was shown as a barrier to community involvement. Frustration at lack of voices being heard also cited by community members. A need for transparency in decision-making processes.
KEENE, D. E. & RUJEL, E. 2013	Atlanta, area undergoing demolition and residents relocated	75%	Interviews (n=25)	Findings found respondents viewed relocation with mixed feelings. Loss of kinship and social ties and social status led to a sense of isolation and loss of control over their surroundings. Residents may feel vulnerable and a loss of their importance within the community. New communities may not be welcoming and there may be caution about forming new ties leading to disparate community groups. New ties were regarded by one resident as a source of risk where they were once protection.

KHAKEE, A. & KULLANDER, B. 2003	Brickebacken (Orebro) and Rinkeby (Stockholm), Sweden - both areas undergoing regeneration	25%	Semi-structured interviews (n= final number not stated)	Barriers to ethnic minorities' participation in local affairs and decision-making processes include language proficiency and they state feelings of marginalisation. Establishing social ties and sense of control is described as being key components to future participation.
LAWLESS, P. 2012	39 areas undergoing regeneration	75%	Housing survey questionnaire (n=19574)	Findings showed that there is little to suggest that the areas as a whole saw more in the way of change with regard to community indicators than did other similarly deprived areas in the same local authority districts.
MARTIN, L. 2007	Atlanta, 4 areas undergoing gentrification	25%	Interviews (n=41)	Findings show that long time residents concerned that involvement of new residents to the area would result in a loss of existing power held by long-time residents. Community organisations and involvement in local decisions was shown as providing a sense of belonging and participation and control to long term residents.
MATHERS, J., PARRY, J. & JONES, S. 2008	West Midlands, area undergoing regeneration	75%	Participant observation, informal conversations, interviews (n= not reported in full)	Fear of judgement and regeneration authorities infringing on their activities to generate income informally is revealed as a reason/justification for actively avoiding participation in regeneration participation/engagement efforts. Findings indicate that stakeholders must be viewed as a 'trusted' body' with delivery through bodies/agencies that are separate from authorities.
MCCARTHY, J. 1997	Hellersdorf, former East Berlin prefabricated housing estate	50%	Not explicitly reported	Findings show community involvement in the area and highlights that communities need to have circumstances that enable them to 'realise their own solutions' and have a voice which is listened to, ensuring that an area is created that meets their needs.
MCWILLIAMS, C. 2004	Greater Pollock	50%	Semi-structured interviews, focus groups (n=not reported)	Findings state that "the community were effectively absent in the early, crucial agenda setting, stages of the GP SIP. This resulted in tension, mistrust and suspicion developing between the local community and the GP SIP" (pg271). Unequal membership of partnerships and previous 'broken promises' highlighted by participants.
MUIR, J. 2004	Northern Belfast and Dublin, 2	0%	literature review, document search, observation, unstructured and semi-structured interviews, and	Northern Belfast -participants expressed disappointment with 1 st yr community forum and feelings of frustration that potential had not been achieved. Political disruption and conflict in the area led to a need for duality of services and community efforts. Additional reports of political unrest linked to feelings of alienation and frustration by members of community for failure of community to participate. Dublin - found that successful representation can be achieved through a stable relationship between the state and civil society, that context for regeneration has an impact on the success of any partnership attempts. Lack of trust issues and transparency caused some delays and hindered

			questionnaires	representation of local interests.
MUIR, J. & RHODES, M. L. 2008	Belfast and Dublin - 3 areas undergoing regeneration in each city	50%	Semi-structured interviews (n=28)	Type of 'vision', history of community involvement, community resources and individual leadership all shown to impact on community involvement.
NIENHUIS, I., VAN DIJK, T. & DE ROO, G. 2011	Arnhem, 5 deprived areas undergoing regeneration	25%	Postal survey (n=856)	Patterns of individuals social participation and feeling connected to the local area (having social ties and sense of community/belonging) shown to explain willingness to participate in local activities and efforts. Respondents classified as active locals, sideliners or doubters.
POLLOCK, V. L. & SHARP, J. 2012	Raploch, area undergoing regeneration (centred on participatory public art programme)	50%	Interviews, photo elicitation, focus groups, questionnaires, observation	Findings showed that there is an interrelationship between macro and micro issues, but for local residents the micro issues are of the most importance and can have a determining influence on the role citizens then assume. Findings showed the potential for a public art process to activate citizens, the wider context and politicisation of the spaces hindered how empowered communities felt.
SOEN, D. 1981	Tel Aviv, an area undergoing urban renewal and the creation of a community centre	50%	Case study and participant observation	Findings show that communities being involved in the decision-making process and coordinating with public agencies aided the renewal process. Dissemination of information, role of specialists and importance of collaboration all highlighted.
STUBBS, J., FOREMAN, J., GOODWIN, A., STORER, T. & SMITH, T. 2005	Minto, large public housing estate undergoing demolition and regeneration	75%	Participatory approach, resident survey (n=180), focus groups, workshops (n= not stated)	Overall findings (reporting on the observations in addition to survey) showed that an open agenda and flexibility is needed in regeneration consultation activities. The issues of partnership with local residents, rebuilding trust, time and resources and an honest approach for proper consultation or information. A willingness to share power and control and honesty is highlighted by participants.
WILLIAMS, J. A. 1969	Austin, area undergoing housing renewal and relocation	50%	Survey (n=95)	Majority of residents saw no change in the social characteristics of the new area. Relocation resulted in respondents describing a loss of community (26%) and disruption to established social ties. Involvement in local groups was not highly prevalent thus mostly unaffected with the exception of church.

The review now presents a synthesis of the 24 studies that reported PE/CE related outcomes. Table 3.2 presents a summary of the studies and their key characteristics. The studies were heterogeneous, all providing varying examples of the type of experiences of residents and communities living in areas undergoing urban regeneration. They varied from examples of relocation (Stubbs et al., 2005, Martin, 2007, Keene and Ruel, 2013), beautification programmes (Allen et al., 2008, Alaimo et al., 2010), demolition (Bowie et al., 2005), housing refurbishment (Allen, 2000) to whole area projects as part of national efforts such as Colenutt and Cutten (1994) and Lawless (2012). The main purpose of this review is to identify if urban regeneration programmes and the processes in their delivery can promote empowerment (please see review hypothesis in Section 3.2). As discussed in Chapter 2, the review needed to identify the potential 'elements' of CE which could be taken forward in the measurement and valuation of CE as an outcome of urban regeneration programmes. Thus, to the reporting of qualitative and quantitative findings, and the variety in types of regeneration contexts included in the studies, the reviewers decided that a synthesis technique that allows for heterogeneity across studies and their results was required. Narrative synthesis was chosen as a suitable methodology as it would allow the reviewers to identify key themes across the studies which could be put forward as potential CE 'elements'.

3.7 Narrative Synthesis (NS)

In order to conduct a thorough synthesis of the findings of the review, narrative synthesis (NS) techniques were identified as an appropriate methodology (Popay et al., 2006). By including multiple study types, with varying forms of data collections, a method which allowed for heterogeneity among the included studies was required (Blank et al., 2012). NS is a form of synthesis commonly applied when statistical analysis is not sought, and researchers want a 'transparent' and 'systematic' means to summarise research evidence to create "an overall picture of current knowledge" (Popay et al., 2006). NS is a textual approach, where quantitative and qualitative findings are surmised to identify themes and relationships between data (Popay et al., 2006). Guidance to prevent bias as reviewers seek to produce a narrative/story through the evidence has been produced by Popay et al. (2006) and funded by the UK Economic and Social Research Council (ESRC) Methods Programme

(<http://www.ncrm.ac.uk/>). This guidance is recommended by both Centre for Reviews and Dissemination (CRD) (CRD, 2009) and the Cochrane Collaboration (Higgins and Green, 2011). The NS here was conducted with accordance to the techniques and rules stipulated within this guidance (CRD, 2009, Popay et al., 2006, Higgins and Green, 2011) .

The process of NS has four key stages:

1. Developing a theory of change;
2. Developing a preliminary synthesis;
3. Exploring relationships in the data;
4. Assessing robustness of synthesis produced.

Each of these will now be presented in turn.

3.7.1 Stage one: Theory Development

This initial stage requires the researcher to consider the theory behind the review question. A recognised element of the delivery of urban regeneration programmes is the role of local communities (Scottish Government, 2015). As previously introduced and outlined in Chapter 1, this community-centric policy focus is not new, and has been a government initiative since the 1990s (ODPM, 2006, DCLG, 2007, DCLG, 2008, Chanan, 2009) both in the UK and internationally (WHO, 1986, UN, 2000, WorldBank, 2001).

“The government’s view that public services are better, local people are more satisfied and communities stronger if involvement, participation and empowerment are at the heart of public service delivery. Enabling people to choose what service they want and who provides it and enabling communities to run their village, estate or neighbourhood” (DCLG, 2006:45).

The recent Community Empowerment and Renewal Bill by the Scottish government, the National Standards for Guidance for Community Engagement and Community Empowerment Action Plan (Scottish Government, 2013a, SCDC, 2005, COSLA and Government., 2009) clearly state their intention to seek to enable communities to have more control over their neighbourhoods through

encouraging more collaborative partnerships and opportunities for communities to be firmly involved in decision-making processes. The Scottish Government has stated that by supporting “communities to achieve their own goals and aspirations through taking independent action and by having their voices heard in the decisions that affect their area” (Scottish Government, 2013b), it is their hope that communities will be more empowered and make a positive difference in their everyday lives. Furthermore, a report by the Scottish Government demonstrates that by incorporating the community, their view and needs in the delivery of urban regeneration can produce feelings of belonging, sense of control and involvement and more successful experiences of regeneration (Findlay, 2010). Moreover, a systematic review commissioned by the Home Office on community involvement in area-based initiatives emphasises that in circumstances where key stakeholders failed to consult, involve affected communities/residents, or undertake participation in an open and transparent manner, there were negative implications as the community expressed feelings of frustration and alienation (Burton et al., 2004). As previously briefly described in Section 2.3.3, ineffective efforts at CE promotion has led to negative experiences of urban regeneration where disagreement has been the result of a failure for all views (across the community) to be considered in decision-making has resulted in a sense of marginalisation and disempowerment (Dargan, 2009). Therefore, there is a theory that, should communities be included and collaborated with throughout the delivery of urban regeneration programmes this can help promote a sense of empowerment in affected communities, however, what CE ‘elements’ are key to this have not been clearly identified across the literature.

One example of this ‘theory’ with the involvement of communities in regeneration and renewal efforts is shown in the work of Glasgow Housing Association (GHA). GHA present an ‘Empowerment and Engagement Strategy 2008/11’ in which they stipulate the need to put customers (tenants/homeowners) at the heart of their business strategy to ensure the best, most necessary and most successful policies are undertaken (GHA, 2008).

“From research and feedback we know that our tenants and customers value different types and levels of

empowerment and engagement, which are dependent on their personal circumstances, commitments and interests. Customers have also told us that they want to ensure that their involvement is of real value and makes a difference. We aim to meet their expectations and encourage greater participation by providing wide-ranging opportunities, which produce successful outcomes” (GHA, 2008:16).

Therefore, current policy and existing literature strongly indicates that key for delivering successful experiences of urban regeneration programmes, is the inclusion of communities and that there is a possibility that, mechanisms of urban regeneration programmes could promote residents and communities sense of empowerment. This is the underlying theory of the review;

- Within urban regeneration programmes, through the creation of decision-making processes which include affected communities and encourage their participation as key stakeholders in issues affecting their local area, the communities may gain a sense of empowerment. Failure of stakeholders to successfully facilitate these transparent and open decision-making environments could lead to communities (or subgroups of the community) feeling disempowered and isolated. Communities of affected residents who do feel marginalised by stakeholders may chose to actively disengage with future decision-making or may turn to alternative means to get their views across. A growing distrust may develop and disrupt the delivery and success of the urban regeneration programme and creation of social cohesion. Furthermore, relocation as the result of regeneration may lead to feelings of displacement and disempowerment as individuals feel marginalised within their own community. The review adopts the theory that should communities be made to feel that their opinions and views are valued and can make a difference through the delivery of urban regeneration programmes then a sense of empowerment may be an outcome and benefit of the intervention. Thus, stakeholders may act as either a facilitator or barrier.

3.7.2 Stage two: Preliminary Synthesis

This second stage of the NS process is the production of an introductory description of the included studies. For the purpose of this thesis NS, this

process highlighted those elements that have either helped to promote or hinder the development of a sense of empowerment among those who are/have been affected by urban regeneration. CB tabulated the data of the primary studies. Data was extracted on the location/setting, the study design, number of participants, focus of the study (study aim), the methodology applied and the main findings. Comments on the studies main findings were textual descriptions. An extract of this can be found in Appendix G. As previously stated, the review included quantitative, qualitative and mixed-methods studies. It was decided by the reviewers that an overall textual description for the relevant quantitative research findings would suffice for the purpose of the review as the main body of the included studies were qualitative and thus would allow for ease of interpretation across the studies. From these textual descriptions of the studies it is possible to identify some key themes that are prevalent throughout the included studies.

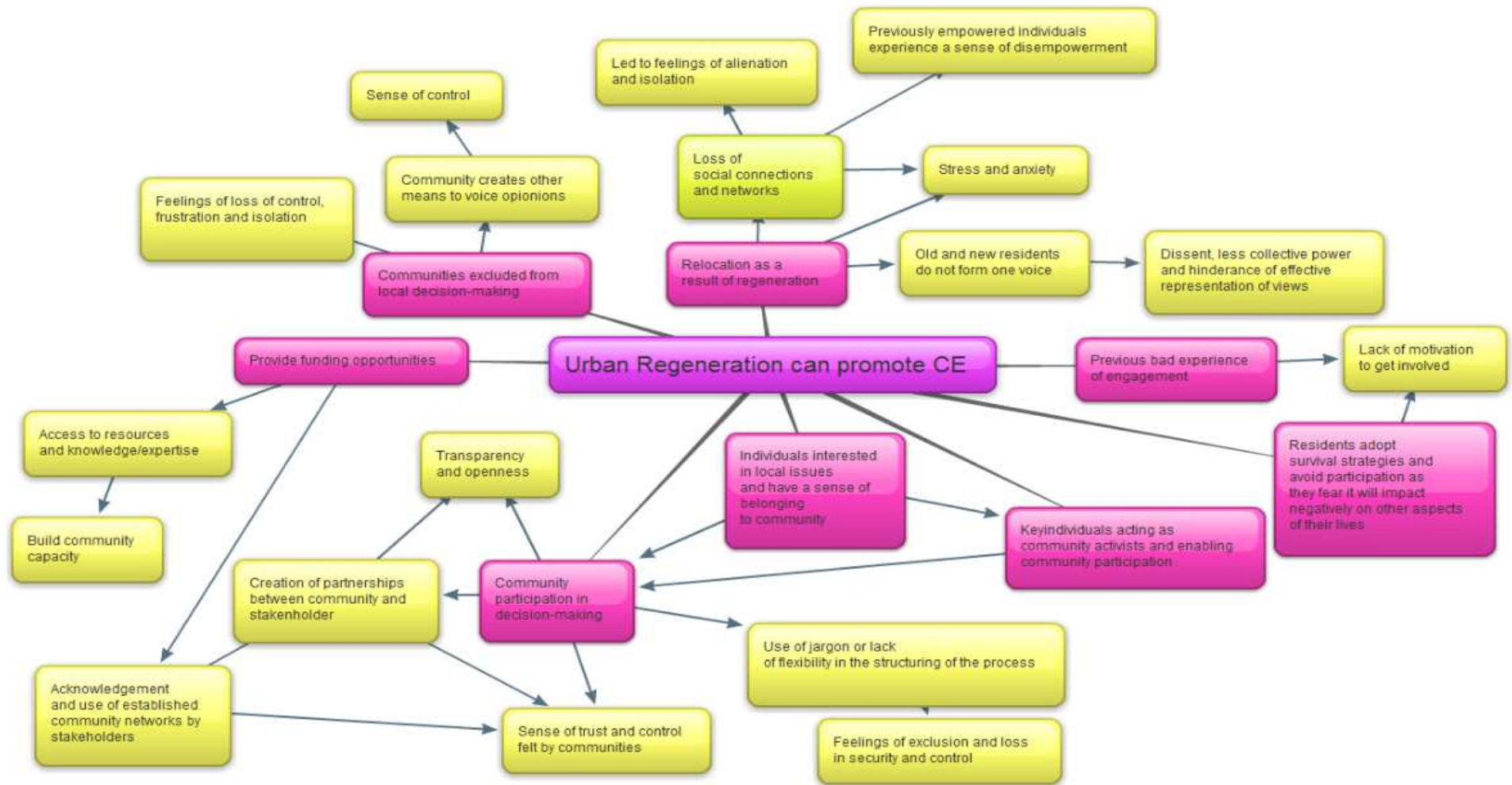
What begins to be evident from the included studies and their findings is that there are means by which urban regeneration programmes can promote a sense of empowerment, most notably by ensuring that affected residents are given the opportunity to be included in local decision-making processes and feel a sense of control. Indeed, 18 of the 24 included studies specifically highlighted this trend. Furthermore, the largest single cause of feelings of lack of control and powerlessness felt by residents was a lack of involvement in the regeneration process and efforts made by stakeholders to engage with communities. In order to fully explore how the different patterns are linked and to identify those factors which explain what acts as a barrier or hindrance to the development of empowerment, the third stage of NS allows the reviewer to 'map' the findings and the relationships between them.

3.7.3 Stage three: Relationships between findings and identification of key themes

As previously stated, a result of the different methodologies used within the studies and differing types of urban regeneration programmes undertaken, there was clear heterogeneity among the identified studies. The third stage of the NS process is to address the influence these differences can have on the findings reported through the use of visual tools such as idea webbing (illustrating the

differing aspects of the implementation of interventions relating to the review question) to link themes identified in the preliminary synthesis stage and demonstrate the factors that may explain the relationships within and between the studies. Highlighting the complexity surrounding the circumstances of population health interventions such as urban regeneration programmes allows the researchers to fully test the robustness of the patterns that emerge from the studies and examine the extent to which, if any, that they were the result of context rather than purely intervention (Popay et al., 2006). For this systematic review an idea web was produced to illustrate the links between the main findings across the studies. The distinctive findings on how urban regeneration can promote or hinder the development of a sense of empowerment will now be discussed, expanding on the links highlighted in Figure 3.5.

Figure 3.5 Idea web of findings and key themes



As already outlined in the first stage of the NS process when detailing the theory underpinning the systematic review, the role of the community has become a central policy concern and central to the creation of empowerment in urban regeneration (Findlay, 2010). Please refer to Chapter 1 for examples of policy commitment to empowerment. At the heart of all the included studies, the importance of ‘participation’ of the community/affected residents as a potential mechanism to create PE/CE related outcomes such as sense of control. Yet the means that it is carried out, the experiences of those involved, and the success of the interventions varies across the studies.

The following sections further discuss the key ‘themes’ across the studies that were highlighted by the preliminary synthesis stage (Appendix G) and a roundtable discussion between the 3 reviews and what the idea web highlighted. These themes demonstrate the commonalities across the included studies despite their heterogeneity and begin to identify key elements of CE within an urban regeneration context.

3.7.3.1 Participation and time commitments

As Hibbitt et al. (2001) explain, participation requires members of the community to “take risks, or to give up their time, often unpaid, with little guarantee of the outcome of a process” (2001:154). All 24 of the included studies demonstrated that inclusion in the urban regeneration process was associated with the possibility of communities developing a sense of control and potential empowerment. In their work Adamson and Bromiley (2008), Muir (2004), Muir and Rhodes (2008), Allen (2000), Colenutt and Cutten (1994), Deptford City Challenge Evaluation Project (1994), Pollock and Sharp (2012), Bowie et al. (2005) and Hibbitt et al. (2001), state that involvement with the communities and key stakeholders to develop partnerships, forums or networks which were beneficial to both stakeholder and community. That is, those circumstances where both the stakeholders and residents were able to achieve their aims and no one agenda took priority allowed communities to gain a sense of control within the decision-making process. Conversely, Allen (2000) reported that the overwhelming emphasis on partnerships within the community between stakeholders and communities was met with ‘muted response’ from residents due to previous bad experiences or being let down by local authorities and their

efforts in the past. The study demonstrated that whilst greater involvement was positively linked to reduced stress and sense of security, residents had less incentive to get involved and calls for the need of new partnerships which offer negotiation for both the resident and the other stakeholders (in this example they stipulate the stakeholder as 'landlords'). Flexibility in partnership creation was also highlighted in the studies by Adamson and Bromiley (2008), Colenutt and Cutten (1994), McWilliams (2004) and Deptford City Challenge Evaluation Project (1994). As findings in Colenutt and Cutten (1994) revealed, the top-down domination of timeframes and overall determination as to how processes of decision-making may be carried out highlighted a sense of exclusion amongst residents due to unavailability. McWilliams (2004) reported that efforts by local bodies for community consultation and partnership creation had been 'flawed' due to a failure to consult communities in the initial stages of developing partnerships. As such the "community were not given adequate opportunity to be involved in decision-making" (McWilliams, 2004:270). Subsequent attempts to encourage participation were regarded with tension, mistrust, and as a tokenistic 'rubber stamping' effort as the community felt the agenda had been developed without their involvement. Communities may want to be involved however, have other demands on their time (such as work, or family commitments). Stakeholders must accommodate other commitments and thus, enable communities to have some choice and control over the format of the participation activities. Stakeholders should take into consideration any time constraints placed by the other commitments residents volunteering their own time may have. Indeed, in their study, Blakeley and Evans (2009) found that "a major cause of non-involvement when 29 per cent of those questioned did not become involved as they lacked the time because of family commitments" (2009:26). This attitude of non-participation due to other commitments was further illustrated in the work by Nienhuis et al. (2011). Their survey of five deprived neighbourhoods in Arnhem emphasised that those who were classified as 'sideliners' (limited interest in local affairs and no plans for future involvement), were more likely to be employed with less time to get involved than residents who were 'active' (interested in local affairs and currently involved in projects and plan to continue to participate) or 'doubters' (not been involved in the last year but may participate in future projects). They noted that

'doubters' and 'active' residents were more likely to be unemployed or housewives/househusbands than 'sideliners'.

Feeling in 'control' and having influence over local decisions was stressed in all included studies. In their study of community garden projects, Allen et al. (2008) and Alaimo et al. (2010) illustrated that those who were involved in the gardening projects yielded a sense of pride and involvement in the local community. They were able to create close connections with other residents and felt they were giving something back to the area. The included studies highlight that mechanisms seeking to encourage participation (through partnership creation or possible agendas for decision-making and consultation throughout the delivery of urban regeneration projects) must be created with the communities from the outset and must take the views and opinions of the communities as their central concern. As Pollock and Shark (2012) and Muir (2004) report, the positive potential of a project can often be 'unwoven' due to failure to look at the issues of importance to residents and instead concentrate on a political/wider agenda.

3.7.3.2 Lack of inclusion

Eleven studies highlighted that in those circumstances where residents and communities felt excluded from the decision-making and planning processes, and exhibited sentiments of frustration and alienation (Hibbitt et al., 2001, Bowie et al., 2005, Khakee and Kullander, 2003, Allen, 2000, Gosling, 2008, Lawless and Pearson, 2012, Blakeley and Evans, 2009, Pollock and Sharp, 2012, Deptford City Challenge Evaluation Project, 1994, McWilliams, 2004, Stubbs et al., 2005). In their study Bowie et al. (2005) emphasise that the lack of notification of upcoming work in the neighbourhood and failure to appreciate the problems that development can have on the daily lives of residents, left the residents expressing "a lack of control over the psychological adjustments and ramifications of demolition and gut rehabilitation activities" (Bowie et al., 2010: 537). More specifically, they pinpointed that without being able to express their views about issues directly impacting on themselves and their family (such as physical hazards and social disruption), their sense of security was affected (Bowie et al., 2005).

However, two study demonstrated that a sense of a lack of inclusion had led residents to seek alternative means for getting their voices heard. Stubbs'et al. (2005) report on the community experiences of those living through Public Housing Estate Redevelopment, highlighted that a lack of notification and information led some community members to create their own groups to exert their views and ensure effective representation of their own ideas. In one study where existing community centres were reliant on funding, once regeneration was underway and relocation led to a reduction in numbers of residents fell, the viability of centres was questioned and funding stopped without consultation with residents. Local residents continued to work unpaid to ensure that the centre continued to support the community. They strove to maintain links within their community and exert their voice over issues concerning them (Gosling, 2008). Yet, these possible 'positive' empowerment related outcomes of a lack of inclusion were not shown elsewhere in the findings.

3.7.3.3 Loss of sense of belonging

The four studies where residents had been relocated from their previous neighbourhoods highlighted that residents felt a sense of loss of social connections, belonging, kinship, previous empowerment and isolation in the participation practices of their new neighbourhoods (Williams, 1969, Keene and Ruel, 2013, Gosling, 2008, Martin, 2007). The process of moving was associated with feelings of stress and anxiety as in the studies by Gosling (2008) and Keene and Ruel (2013), with the latter focusing on the relocation of the elderly with disturbing results. One respondent linked "the death of several elderly acquaintances to grief associated with the move" (Keene and Ruel, 2013: 362). Martin (2007) demonstrated that one outcome of regeneration that can impact feelings of empowerment is 'political displacement'. Lack of collaboration between groups of new (relocated) residents and the established residents was shown to lead to experiences of dissent as established residents failed to fully engage with these new residents. Additionally, as more organisations competed for resources and members within the one area, a lack of power in one collective voice was shown (Martin, 2007). Nienhuis et al. (2011) and Lawless and Pearson (2012), found that residents active in neighbourhood projects displayed a higher sense of belonging to their neighbourhood and more connected to their community. In their study, Nienhuis et al., (2011), reported

that personal lifestyle traits could help explain why some residents are more likely to get involved in participatory processes. The study found that patterns of social participation those who felt more connected to others within their neighbourhood were more likely to participate in local decision-making. The study showed that ‘sense of belonging to the community’ was divisive among the three groups (active locals, sideliners and doubters) and that ‘active locals’ were more community minded than the other two groups. Moreover, the study highlights that residents whose social ties are outside the community are more likely to have a selective interest in getting involved in local affairs. Thus, the study demonstrates how, whilst efforts to create mechanisms to help engage with affected communities and residents (such as collaborative planning and neighbourhood projects) are important, clear consideration must be given to how to engage with all members of the community, not just creating a ‘local deliberative democracy ruled by the minority of active locals’. Sense of belonging may be associated with CE (even acting as an indicator) however, as Nienhuis et al., (2011) report, in order to create activities/mechanisms which create a sense of empowerment throughout communities, the needs of those potentially less eager members of communities must also be considered. That is not to suggest that they feel disempowered by choosing not to be involved, but that issues and agendas being discussed are not of interest or relevance to them.

3.7.3.4 Trust in Stakeholders

When discussing the impact of participation opportunities on affected residents the main sentiment highlighted in seven of the included studies was the development of trust between community and decision makers/stakeholders when residents felt that they had a say regarding key issues affecting them (Muir and Rhodes, 2008, Muir, 2004, Martin, 2007, Hibbitt et al., 2001, Adamson and Bromiley, 2008, Pollock and Sharp, 2012, Colenutt and Cutten, 1994). Lack of trust in stakeholders, often based on previous bad experiences of community engagement attempts, was shown as having a clear association with residents’ disinterest, and sometimes, avoidance of local affairs and collaborative planning initiatives (Blakeley and Evans, 2009). Eight studies illustrated a general sentiment and pattern; that previous bad experiences with local governmental agencies (the stakeholders in the urban regeneration initiatives) left residents feeling jaded and unwilling to engage (McWilliams, 2004, Muir, 2004, Muir and

Rhodes, 2008, Hibbitt et al., 2001, Allen, 2000, Nienhuis et al., 2011, Gosling, 2008, Adamson and Bromiley, 2008).

One further study highlighted that some residents adopted ‘survival strategies’, purposely avoiding participation with stakeholders due to negative past experiences and fear that any information they disclose may lead to further, unwanted, actions by the state on other aspects of their lives (such as investigation into their benefit claims and employment through unregulated activities) (Mathers et al., 2008). Contributing to this mistrust was an inability to separate regeneration efforts and authorities with other official channels (Mathers et al., 2008). This, the study argues, did not directly indicate a lack of empowerment and or lack of capacity but rather, failure by stakeholders to understand the social and cultural context in which residents decide whether they will participate. “For these residents, the costs in terms of threats to their survival strategies outweigh the benefits” (Mathers, et al., 2008:600). Linking back to findings on ‘participation and time commitments’, studies highlight that participatory area-based regeneration initiatives wishing to engage with communities must take residents other commitments and agendas into consideration and unpick reasons behind resident non-participation.

Furthermore, when trying to engage with the community, studies identified that there must be clarity over what form the participation will take and a clear understanding of how much control and say the community will have (a transparency and trust in the decision making process). Gosling (2008), Muir (2004), Deptford City Challenge Evaluation Project (1994), Adamson and Bromiley (2008) and Hibbitt et al. (2001) all highlighted that residents felt disappointed by the amount of influence they were able to exert over the decision-making process.

“It seemed that the hoops were being set from the start by the bureaucrats and there wasn’t really a notion of us ever setting the agenda. I think people thought we would be able to set the agenda and we would be able to decide for ourselves where the money went” (Deptford City Challenge Evaluation Project, 1994:58).

Evidence emerged from three studies that engaging with communities was more successful where communities had experience of involvement, established a level of trust and collaboration with stakeholders and had the necessary skills to negotiate and interact with implementing bodies (Muir, 2004, Muir and Rhodes, 2008, Adamson and Bromiley, 2008). Circumstances where individuals opinions, existing local knowledge, networks and social connections were valued and utilised, stakeholders were able to engage with more residents and create a more appropriate and relevant partnership with the community (Adamson and Bromiley, 2008). Failure to interact with existing community groups was shown to lead to a duplication of existing structures being imposed on the community and suggest a lack of understanding of the local context (Muir and Rhodes, 2008, Adamson and Bromiley, 2008).

3.7.3.5 Enabling community involvement

When discussing how stakeholders could engage with communities and help enable them to become active participants, the role of capacity-building and provision of resources was raised. Eight studies demonstrated that providing communities with resources that enabled them to develop necessary skills and knowledge to participate fully was required (Adamson and Bromiley, 2008, Hibbitt et al., 2001, Allen, 2000, Gosling, 2008, Muir and Rhodes, 2008, Deptford City Challenge Evaluation Project, 1994, Colenutt and Cutten, 1994, Soen, 1981).

**“A formal support mechanism will be required to develop capacity and support community members in their learning and their development of a ‘participation career’”
(Adamson and Bromiley, 2008:xiii).**

The use of ‘jargon’, provision of information only in certain languages, and use of meeting places or times that were not accessible to all led to residents feeling isolated and intimidated by the stakeholders and other agencies (Hibbitt et al., 2001, Deptford City Challenge Evaluation Project, 1994, Colenutt and Cutten, 1994, Muir and Rhodes, 2008, Bowie et al., 2005). In order to tackle such sentiments, it was acknowledged in the five studies that some practices of stakeholders must change and, that urban regeneration initiatives should provide

communities should receive some funding to develop their expertise and knowledge in order to “level the playing field with state agencies and addressed some aspects of power imbalances” (Muir and Rhodes, 2008:512). Evidence showed that where meetings, forums and partnerships had an identity that suited all parties, and the use of isolating jargon was abandoned led to a change in relationships and “alluded to emerging networks of trust and channels of communication” (Hibbitt et al., 2001:156).

3.7.3.6 Summary

The review indicates that there is an available body of evidence on potential for mechanisms within the delivery of urban regeneration programmes to impact on residents and community levels of engagement and potential sense of empowerment. The majority of evidence is shown from the UK, Ireland, Australia and the United States of America with only one study identified from elsewhere (Soen, 1981). However, the reviewers conclude that this could be a direct result of the inclusion of English language studies only. The review identified a wide range of types of urban regeneration programmes including community participation promoting efforts, however, as the critical appraisal stage demonstrated, explicit, full details of the studies were rarely reported and thus, may be sources of bias. Only three studies received the highest appraisal score (Bowie et al., 2005, Allen et al., 2008, Alaimo et al., 2010), two of which were conducted in the same setting. A mix of positive and negative potential PE/CE related outcomes were reported, regardless of study quality, thus suggesting that the size and type of impact remains unclear. Improvements in general participation and engagement were reported in relation to ‘non-tokenistic’ development of partnerships, common agendas, sense of trust between the community residents and other stakeholders and where feelings of belonging to the local community/area had been reported. However, more frequently, barriers/hindrances to a community’s inclusion and subsequent feelings of frustration, mistrust and in some cases active non-participation were cited. There is some suggestion that reports of non-participation in urban regeneration collaborative efforts may be the result of self-selection (purposive decisions) by residents and should not be regarded as a lack of empowerment but rather should be seen as a disinterest in the work (Nienhuis et al., 2011) or possibly a form of ‘survival’ strategy due to a sense of distrust in official

authorities and a need to ensure that their own social networks are not compromised (Mathers et al., 2008).

A general conclusion on improvements to resident participation and possible empowerment can be reached from the review as being more likely to be achieved through urban regeneration programmes if their delivery includes the following elements:

- A sense of *inclusion* and opportunity to participate in decision-making processes;
- Stakeholders acknowledging the *time commitments* expected of residents and thus seeking flexible partnerships;
- A sense of *belonging* to the community and area;
- A sense of *trust* in stakeholders and the knowledge that there is transparency in the decision processes and that their views, existing networks and connections are valued;
- Stakeholders offering *funding and support* to help communities (capability building);
- *Information* and awareness about decisions regarding the regeneration programme.

As outlined in Chapter 2, in order to measure CE, it is imperative that first there needs to be an identification of potential context specific CE elements to illustrate what aspects of CE could be valued (Khwaja, 2005). This review has provided the necessary preliminary step for the thesis to achieve its overall aim to contribute to evidence by exploring how, through the use of economic evaluation techniques, the elements of CE can be identified, measured and valued within an urban regeneration context and have provided some insight as to how delivery of urban regeneration could be associated with CE related outcomes.

3.7.4 Stage four: Review robustness

To the best of the review team's knowledge, this is the the first review on examining the possible impact urban regeneration can have on sense of empowerment in affected communities and residents. Its findings, therefore, are of relevance to urban regeneration policy-makers aiming to contribute to the development of future empowerment promoting activities and initiatives.

However, a clear limitation of the review is that the included studies failed to identify, in a controlled environment, definitive evidence that urban regeneration programmes can lead to a sense of empowerment, the question of the review. Factors such as small sample sizes (Lawless, 2012), bias within the sample selection/recruitment (Mathers et al., 2008), acknowledgement of existing contextual external factors prior to the regeneration such as political climates (Muir and Rhodes, 2008), previous bad experiences (McWilliams, 2004, Muir, 2004, Muir and Rhodes, 2008, Hibbitt et al., 2001, Allen, 2000, Nienhuis et al., 2011, Gosling, 2008, Adamson and Bromiley, 2008) and personal circumstances (Mathers et al., 2008, Nienhuis et al., 2011) were all highlighted as confounding issues raised within the studies. These provide some explanation for the lack of impact shown. Without the use of more rigorous study designs that include control or comparator groups, larger sample sizes and provide baseline data, it is not possible to provide a definitive explanation for the impacts shown, or lack of them. Furthermore, whilst no study was regarded as providing no useful information and fatally flawed, an issue raised by all members of the review team was the lack of socio-demographic information on participants within qualitative studies included. Without full disclosure of 'who' is being studied, the reviewers felt that they were only able to infer more generalised and broad trends of potential elements of CE from the findings.

The review is able to evidence findings that support for the hypothesis that urban regeneration and the processes in their delivery can act as the catalyst to unite individuals, create community social cohesion and promote empowerment in both individuals (PE) and communities (CE). However, the majority of findings show that the processes within urban regeneration, often fail clearly demonstrate, with certainty, the impact on PE/CE and that, future work is needed. The potential remains but more data is required to identify a clear causal relationship between urban regeneration and specific empowerment outcomes. This is discussed in more detail in Sections 4.5 and 4.6

Failure by authors to disclose full details of studies and methodology and the overall range of included study quality demonstrate that the quality of evidence in the field is variable. The review goes some way in identifying elements that can be linked to empowerment related behaviours and can be taken forward

within this thesis to be used in conjunction with secondary data analyses (reported in Chapter 4), to form the preliminary developmental stage of determining suitable economic methodology to be used for empirical work valuing empowerment and its links to health and wellbeing in an urban regeneration context.

Reflecting back to discussion in Chapter 2, the review demonstrated that within an urban regeneration context, when trying to capture CE, this cannot be easily separated from PE. Included studies did not separate individuals from their surroundings (and communities) and commonly referred to individual reports of empowerment being resultant of taking part in community action and engagement. Thus, such results provide further, context-specific evidence that PE and CE may be linked and could be connected on a form of continuum.

Furthermore, through conducting the NS a number of factors have been identified which have proved to enable and hinder the development of empowerment in an urban regeneration programme. These 'enablers' and 'barriers' are outlined in Table 3.3.

Table 3.4: Enablers and barriers to promotion of empowerment in urban regeneration programmes

<p>Enablers</p>	<ul style="list-style-type: none"> • Established history of community involvement helped communities and stakeholders negotiate and collaborate to create a common vision. They already had knowledge, skills and networks to utilise. • Acknowledgement and use of established community networks. • Access to resources to build community capacity and capability to gain more skills and expertise. • Trust and transparency in the decision-making and consultation process gave the communities a more positive experience of urban regeneration. They felt some control over the process. • Frustration towards the lack of involvement in the consultation process has led communities to seek alternative means to get their voices heard. • Creation of partnerships. • Community garden schemes as a form of urban regeneration created stronger (intergenerational) social ties in the neighbourhoods and helped create more cohesion and trust among residents. A sense of pride and inclusion was created. Involving youth in the programme could lead to their future involvement in engagement activities in later life. • Evidence that having more interest in local issues is related to participation. Those who have a sense of belonging and feel committed to the area will engage more in issues around them. They are more motivated.
<p>Barriers</p>	<ul style="list-style-type: none"> • Lack of appreciation or understanding of local context by stakeholders. This could include the use of jargon or, negative attitudes held by professionals and stakeholders towards the areas undergoing regeneration caused communities to feel isolated, and unappreciated. • Groups excluded by language barriers or cultural differences. • Failure to create one common voice between new and old residents after relocation led to dissent and hindered effective representation of their views. Political displacement was created. • Lack of transparency in decision-making process led to communities feeling isolated and alienated. Feelings of disempowerment and lack of control. • Relocation created a loss of social ties previously developed in old neighbourhood. This did lead to expressions of feeling socially excluded. • Previous negative experiences of attempts of community involvement have led to disillusionment and

	<p>residents unmotivated to get involved in the decision-making processes.</p> <ul style="list-style-type: none">• Failure to consider how the impacts of the urban regeneration will affect residents and their families' daily routine left residents frustrated, feeling a sense of loss of control and concerned about their security.• Stressed caused by lack of control over regeneration negatively affected residents health. 1 report of psoriasis, cases of depression and anxiety.• Residents adopt survival strategies and a 'self-provisioning' ability due to their fear that getting involved in local activities and with local agencies may negatively impact on other aspects of their lives. As such they purposely avoid becoming involved community engagement activities.
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3.8 Next steps

This systematic NS review has provided initial evidence to form a hypothesis that urban regeneration programmes and their mechanisms could impact on sense of empowerment, providing an important, theoretical basis for the next stages of the thesis. Now in Chapter 4, this hypothesis will be carried forward and tested using data collected from an ongoing research programme within neighbourhoods undergoing regeneration.

Chapter Four: GoWell data analysis for profiling empowerment in urban regeneration

The empirical work contained within this chapter has been published in *Urban Studies* (2016):

Baba, C., Kearns, A., McIntosh, E., Tannahill, C. & Lewsey, J. 2016. Is empowerment a route to improving mental health and wellbeing in an urban regeneration (UR) context? *Urban Studies*. (Published online before print February 2016)

4.1 Introduction

As outlined in Chapter 3, from completion of a systematic review and narrative synthesis, it has been possible to hypothesise that a sense of empowerment can be promoted by urban regeneration programmes. Additionally, the review was able to identify some particular elements of CE that were exhibited by communities/affected residents and linked to their reporting a stronger sense of empowerment. These were:

- A sense of *inclusion* and opportunity to participate in decision-making processes;
- Stakeholders acknowledging the *time commitments* expected of residents and thus seeking flexible partnerships;
- A sense of *belonging* to the community and area;
- A sense of *trust* in stakeholders and the knowledge that there is transparency in the decision processes and that their views, existing networks and connections are valued;
- Stakeholders offering *funding and support* to help communities (capability building);
- *Information* and awareness about decisions regarding the regeneration programme.

In order to further examine these CE elements and test the hypothesis that urban regeneration programmes can lead to a sense of empowerment, secondary analysis of data collected as part of the GoWell research programme was

conducted. The aims of this analysis was to ‘profile’ what empowerment looks like in an urban regeneration context, the extent to which findings support the review results and whether there are any socio-demographic characteristics that can be associated with empowerment levels. This is followed by an examination to determine as to whether resident empowerment leads to health gains and better reported health.

Section 4.2 introduces the GoWell Research programme and its participants and Section 4.3 outlines the methods employed in the analysis (cross tabulations and regression analysis). Results are presented in Section 4.4, and discussed in Section 4.5. Lastly, Section 4.6 presents concluding thoughts on how the findings inform the development and next steps in the thesis.

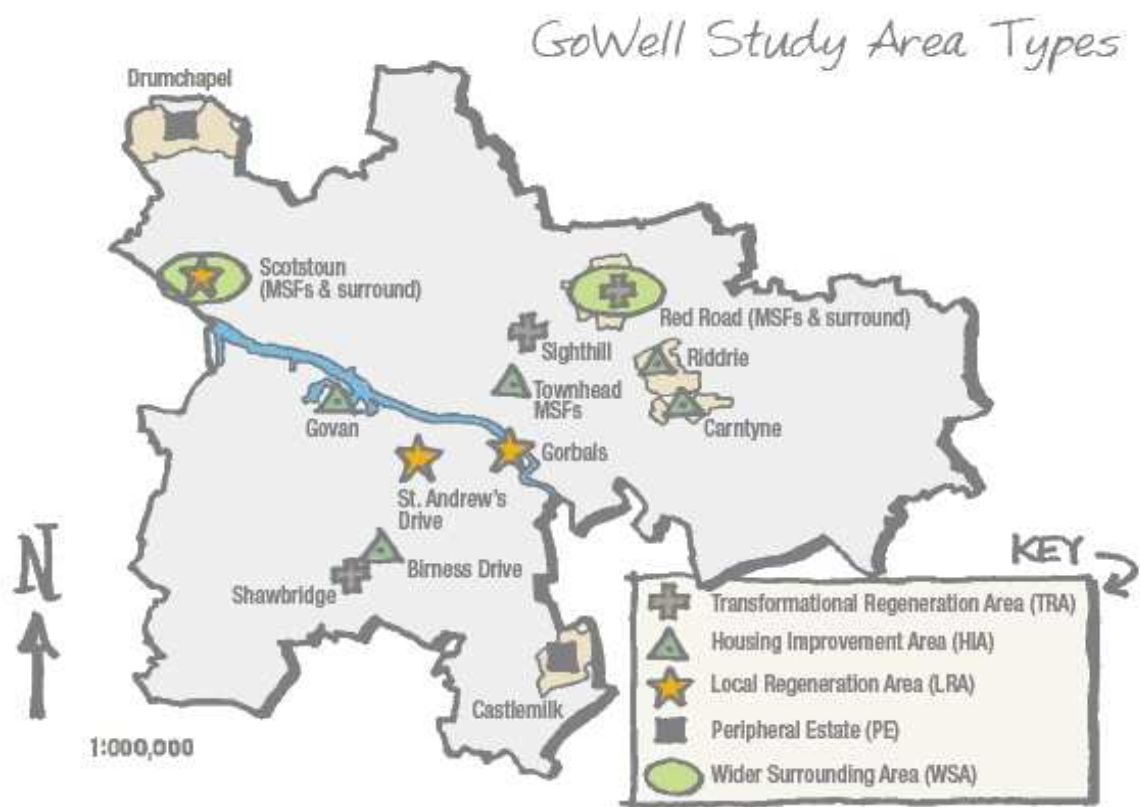
4.2 GoWell research and learning programme

Capturing effects of regeneration in the study areas, GoWell’s longitudinal study applies a mixed methods approach with the overarching aim of investigating how regeneration can affect residents’ health and wellbeing and identifying what specific processes are creating these impacts (Egan et al., 2010). The programme strives to increase community awareness and the residents’ understanding of their health issues with the overall hope that the programme can help guide the development of regeneration policy and practice across the country and possibly internationally (GoWell, 2012). By increasing the evidence base of how regeneration can impact peoples’ lives, a more informed policy making approach ought to be developed (GoWell, 2012). The learning and research programme was launched in February 2006 (<http://www.gowellonline.com/>) as collaboration between seven key partners, drawing together health, regeneration and housing sectors:

- Glasgow Centre for Population Health (GCPH);
- University of Glasgow;
- MRC/CSO Social and Public Health Sciences Unit;
- Glasgow Housing Association (GHA);
- Scottish Government;
- NHS Health Scotland; and
- NHS Greater Glasgow and Clyde.

The study incorporates 15 communities experiencing different stages of change within the regeneration programme underway in Glasgow. All areas have income deprivation levels falling within the bottom 15% of areas in the Scottish Index of Multiple Deprivation (Egan et al., 2010). The areas involved and the type of regeneration in progress are shown in Figure 4.1.

Figure 4.1 GoWell study areas and types of regeneration (GoWell, 2006)



As Figure 4.1 illustrates, the study areas are dispersed throughout Glasgow, and grouped into five 'Intervention Area Types' (IATs), based on the type of regeneration work they are currently experiencing (GoWell, 2010). As defined in GoWell's 2010 report (GoWell, 2010) and in descending order by amount of regeneration activity, the IATs are listed below:

- Transformational Regeneration Areas (TRAs) are those experiencing the most change through large scale redesign (could include demolition, new building, community initiatives or physical renewal);
- Local Regeneration Areas (LRAs) are smaller areas undergoing similar work to that in TRAs;

- Wider Surrounding Areas (WSAs) are the areas that surround TRAs and LRA experiencing some knock-on effects from TRAs and LRAs. Additionally they will also be subject to some targeted improvements to their housing;
- Housing Improvement Areas (HIAs) only receive housing improvement investment;
- Peripheral Estates (PEs) are those neighbourhoods located near the city boundary which have had a history of development, including a commitment to housing tenure diversification.

Within all these areas community empowerment and engagement processes are being undertaken. Community based housing associations such as the Glasgow Housing Association (GHA) work with and consult their tenants (GHA, 2008). Tenants are included on housing committees and each area has tenant committees, community councils and other structures that enable feedback processes and tenants to get involved with local issues. Furthermore, additional consultation is undertaken in areas of major demolition and redevelopment to create masterplans for the area redevelopment (Lawson and Kearns, 2010). A list of consultation and engagement activities supported by GHA from their Empowerment and Engagement Strategy 2008/11 can be found in Appendix I (GHA, 2008).

4.2.1 The GoWell survey

Currently the study is in its third phase of activity (April 2012- March 2016). At the time of this analysis (April - November 2013), three GoWell Community Health and Wellbeing survey waves had been completed (2006, 2008, and 2011) with study area residents. Using a sample of postal addresses per study area, “one adult householder per household was approached to participate in the survey” (GoWell, 2010:7). The survey consists of a structured questionnaire (completed with a fieldworker) asking respondents about their feelings regarding their health, personal circumstances, overall wellbeing, and their perception of the community and neighbourhood and issues surrounding their home. Of specific relevance and interest to this thesis, some of the questions within these surveys pertain to the respondent’s feelings and perceptions of their empowerment (both PE and CE).

Data made available to the researcher was from the 2011 wave of the GoWell Survey, collected from a sample of 4270 householders (≥ 16 years old).

The following section describes the measure of empowerment employed in the GoWell survey and its suitability for use in this thesis.

4.2.2 Empowerment survey measure

One key consideration prior to conducting any analyses was examination of the empowerment measures developed by the GoWell PIs (Lyndal Bond (LB), Matt Egan (ME), Ade Kearns (AK) and supervisor, CT) ensuring that it fit with the definitions and interpretation outlined by this thesis, that PE and CE are interlinked. That is, CE stems from a behavioural component of PE, where individuals look beyond their own issues and collaborate with others. As illustrated in Chapter 2, previous empirical and theoretical work has shown a link between the two constructs, with individuals self-reported PE being an indicator of CE (Chavis and Wandersman, 1990, Saegert and Winkel, 1996, Peterson and Zimmerman, 2004, Zimmerman, 1995).

The empowerment question within the GoWell survey asks respondents to consider:

How much do you agree or disagree with the following statement: ‘On your own, or with others, you can influence decisions affecting your local area?’

Five response categories were used: strongly disagree, disagree, no opinion/unsure, agree and strongly agree. This question was originally adapted from the Home Office Citizenship Survey (Attwood et al., 2003). The hybrid wording of the question, asking participants to consider their own empowerment (PE) as well as that gained from interactions with others (CE), encompasses the idea of levels of empowerment being connected. Directly the question forces respondents to consider their personal empowerment and influence in decision-making as well as that which they gain with others. Thus, whilst analyses may be constrained through the use of predetermined measures, extensive discussions with the supervision team and GoWell PIs led the researcher to conclude that, as

shown in Chapter 2, PE and CE can be linked and should not be considered in isolation from one another, thus, it was suitable to draw from GoWell empowerment data collected.

4.3 Methodology

In order to conduct the analyses outlined in this chapter, it was necessary to request access to data files collected and collated by the GoWell team of principal investigators. Consent to conduct the analysis was granted April 2013. Furthermore, the analyses were covered by ethical approval granted for the GoWell programme (Appendix J).

4.3.1 Aims

The overarching aim of these analyses was to build upon the results from the NS review outlined in Chapter 3 and specifically address the following research questions:

1. Profile CE - Are there specific respondent characteristics or behaviours evidence among those who identify themselves as being empowered in their neighbourhood? (e.g. age, gender, length of time living in area);
2. Is there evidence to support the NS review findings that respondents' who have a stronger sense of belonging to their neighbourhood, are more active in local activities and have more social connections also report higher levels of CE?
3. Within an urban regeneration context, is there a link between a respondent's health and their sense of CE?

4.3.2 Statistical analyses

All statistical analyses were conducted using STATA 12SE software (StataCorp, 2011). Prior to undertaking regression analyses for Aims 1 and 2, cross-tabulations were produced showing ranges and averages, and comparisons among the selected survey questions. Descriptive analyses were conducted by CB to familiarise herself with the data, its distribution and to inform the next phase of analysis. Aside from the empowerment measure, analysis of socio-demographic variables (such as age, gender, citizenship status, perceptions of current neighbourhood and home) were undertaken. These can be seen in

Appendix K. These cross-tabulations provided the premise for undertaking regression analysis to determine which of the predictor variables have a significant association with empowerment. Regression analyses provide estimates of the effect of independent variables on a dependent variable.

The identified (from cross-tabulations) socio-demographic variables as predictor variables from the GoWell survey allows a 'profile' of what empowerment could look like within urban regeneration to be produced. This procedure required a number of categorical variables to be incorporated in any regressions. However, prior to undertaking any regression-type analysis it was essential to test for collinearity among the predictor variables. This is the occurrence of a perfect/exact relationship between predictor variables: if two predictor variables are highly correlated, the relationship between a predictor and the outcome variable can be misinterpreted. If any of the predictor/explanatory variables are highly correlated with each other this alters the coefficients produced in the logistic regression and may suggest a significant association with the dependent variable that is not actually present. Collinearity was raised as a particular concern for the variables listed below which address the survey respondents satisfaction with different aspects of their homes and neighbourhoods and their interaction with neighbours, friends and family.

- Satisfaction with current home;
- Satisfaction with housing services;
- Satisfaction with current neighbourhood as a place to live;
- Feel a sense of belonging to the neighbourhood;
- Feel part of the community;
- Extent of acquaintance with neighbours;
- Geographical proximity to friends and relatives you meet regularly.

As the variables were ordinal, Spearman rank correlation coefficient was used to test for association among the variables of concern. A correlation matrix was produced in STATA. A figure of >0.9 (where +1 demonstrates a perfect relationship between variables) demonstrates that collinearity is occurring and remedial measures (drop one of the correlated variables) should be sought.

Following collinearity testing, ordinal logistic regressions were conducted to explore univariate relationships between respondents' personal characteristics (Aim 1), their social and neighbourhood interactions (Aim 2) and their sense of empowerment, thereby allowing a 'profile' of empowerment in an urban regeneration context to be created. A suite of socio-demographic variables were used in the analysis. Ordered logistic regression models were used. An underlying assumption of this ordered logistic regression model techniques is that the relationship between each level of variables is the same (known as the Proportional Odds Assumption). This allows for the researcher to use only one model to investigate the relationship between the dependent and independent variables. For these regressions, responses to the empowerment question were the dependent variable. The response categories were ordered from 'strongly disagree' to 'strongly agree'. It is these levels of 'perceived influence' that are referred to when discussing respondents' self-reported feelings of empowerment within the regressions.

For Aim 3 the outcome of interest was physical and mental health and well-being. Two health scales were included: the Warwick Edinburgh Mental Wellbeing Scale (WEMWBS) and the SF-12v2 Health Survey (Tennant et al., 2007, Ware et al., 1996). WEMWBS is a validated, 14-item scale that measures positive mental wellbeing over the previous 2 weeks (Tennant et al., 2007). Self-reported responses are used and summed to calculate an overall score, within the range 14-70. Higher scores indicate greater wellbeing. In 2012 the average score for the Scottish adult population was 49.9 (Scottish Government, 2014b). The SF-12v2 is a validated questionnaire that is commonly used to measure both physical and mental aspects of health (Ware et al., 1996). Summary measures for mental (MCS) and physical health (PCS) are produced from 12 questions which ask respondents about their health over the previous 4 weeks. The summary measures and overall score are used for these analyses, and have a range of 0- 100 (low- high) (Ware et al., 1996). Eight aspects of mental and physical health are measured. Physical health is measured by respondents physical functioning, their bodily pain, role-physical (if health interfered with work or regular activities) and, general health. A respondent's mental health is calculated from their self-reported vitality, social functioning, role-emotional (how their emotional state has affected their work and daily routine) and mental

health (how they feel emotionally). Multivariate analysis of associations was undertaken between empowerment and the three health variables, controlling for socio-demographic measures. Linear regression was used when undertaking analysis with the continuous dependent variables: respondent's general health score, WEMWBS overall score and SF-12v2's two component scores and overall score. A further final stage of analysis was carried out examining the impact of empowerment on health states within the WEMWBS scale. For this analysis, responses to the empowerment question formed the independent variable and the 14 health states within WEMWBS were the dependent variables in the logistic regressions. This analysis was undertaken in light of the cross-sectional nature of the data, in order to assess the logic of causal direction of effect. Essentially it was unclear as to whether empowerment creates improvement in health or whether, individuals who have improved health are more likely to become empowered. Consequently, the regression performed here examined whether individuals who reported different responses to the empowerment survey measure also reported different levels of health and if any patterns can be identified.

For each of the independent variables, a control was determined as the lowest level of each variable's likert scale. These were all set to zero with the exception of 'respondent employment' where the control category, 'not in education, employment or training' (NEET) was coded as one item. Coding levels are provided in Appendix L.

As this work is affiliated with the GoWell programme it was necessary to ensure that the regressions were adjusted using baseline indicators also chosen in publications of findings released by the programme (Egan et al., 2012, Egan et al., 2013, Kearns et al., 2012). As such, each regression was adjusted for age, gender, citizenship status, long-term illness and employment status. A statistical significance level of 5% was used throughout.

4.4 Results

Of the 4,270 participants in the sample, 16 (0.37%) did not provide details of their feelings of empowerment and thus were excluded from analysis. As shown in Table 4.1, 40% of respondents agreed (strongly or otherwise), that they have

influence over local decisions affecting their area, whilst 31% of respondents did not feel they influence local decisions. Furthermore, nearly 30% were unsure of, or had no strong inclination about their ability to influence decision-making.

Table 4.1: Empowerment in GoWell Wave 3 survey

On your own, or with others, you can influence decisions affecting your local area	Number of respondents)	Percentage (%)
Strongly agree	222	5.20
Agree	1500	35.13
No opinion/unsure	1226	28.71
Disagree	961	22.51
Strongly disagree	345	8.08
Not provided	16	0.37
Total	4270	100

Results of the descriptive analyses (cross-tabulations) are contained in Appendix F. 59% of survey respondents were female and 41% were male; only two participants refused to disclose their gender (0.05% of the sample). Nearly two thirds of participants were aged between 25 and 54 years old. Fewer than 8% were young adult householders (16-24 years old), 14% were aged 55-64 years and participants over 65 years old represented almost 23% of the survey sample. 11 participants (0.26%) did not disclose their age.

Cross-tabulations were conducted and can be found in Appendix F providing indications of respondent characteristics and behaviours associated with empowerment. Section 4.4.1 and 4.4.2 will present the results in relation to research Aims 1 and 2 before a full examination of the regression analyses.

4.4.1 Study Aim 1

The cross-tabulations identified the following patterns for inclusion in regression analysis, allowing for the statistical significance of the following potential predictive relationships with empowerment to be tested:

- Sense of empowerment increases with age;
- Participants in a relationship feel more empowered;
- Stability of respondent's citizenship status indicates a higher sense of empowerment;

- Retired participants and those who are satisfied with their current employment status report a higher sense of empowerment;
- Length of time in current area or home increases sense of empowerment;
- Higher sense of empowerment is positively associated with satisfaction with housing services;
- Satisfaction with current home is positively linked sense of empowerment;
- Sense of empowerment increases with neighbourhood satisfaction.

4.4.2 Study Aim 2

The following associations were evidenced in the cross-tabulations and singled out for inclusion in the regression analysis to test their statistical significance:

- Sense of empowerment increases with sense of belonging in the neighbourhood and sense of feeling like part of the community;
- Sense of empowerment has a positive association with knowing people in their neighbourhood and having more contact with these individuals;
- Sense of empowerment has no association with participation in local activities and geographic proximity to closest friends or family. These variables were included in the regression to further test this as had previously been highlighted in the literature as having some link to empowerment in regeneration (Chapter 3).

4.4.3 Collinearity testing

As shown below in Table 4.2, collinearity was not a concern among these variables, with none of the seven variables showing significant associations when paired with another explanatory variable. That is, a figure of >0.9 (where $+1$ demonstrates a perfect relationship between variables) was not shown for any of the variables and thus, collinearity was not a concern. Therefore, none of the variables needed to be dropped from the analysis.

Table 4.2: Collinearity among variables

Variable	Satisfaction with current home	Satisfaction with housing services	Satisfaction with current neighbourhood as a place to live	Feel a sense of belonging to the neighbourhood	Feel part of the community	Extent of acquaintance with neighbours	Proximity to friends and relatives you meet regularly
Satisfaction with current home	1.00						
Satisfaction with housing services	0.41	1.00					
Satisfaction with current neighbourhood as a place to live	0.44	0.36	1.00				
Feel a sense of belonging to the neighbourhood	0.42	0.31	0.49	1.00			
Feel part of the community	0.40	0.31	0.47	0.81	1.00		
Extent of acquaintance with neighbours	0.18	0.12	0.21	0.39	0.41	1.00	
Geographical proximity to friends and relatives you meet regularly	0.06	0.07	0.08	0.19	0.19	0.29	1.00

Each of the study aims are now addressed in turn with interpretations of the regressions and what they illustrate.

4.4.4 Aim 1 results

Aim 1 concerned whether there are characteristics of respondents who identified themselves as being empowered within this urban regeneration context that could act as predictors of empowerment and contribute to a profile of CE. Table 4.3 demonstrates that there was little evidence of association between the demographic variables examining various aspects of participants' lives and their satisfaction with their neighbourhood or home and participant empowerment, with few being significant ($p\text{-value} > 0.05$) after adjustment. However, it was possible to confirm that some socio-demographic variables appear to affect sense of empowerment.

Table 4.3: Adjusted ordered logistic regression results for profiling empowerment

Dependent variable: Participants level of empowerment (number of observations = 1785, number of missing observations = 2469)					
Independent variables	Category	Participant numbers	Odds ratio	P-value	Confidence Intervals (95%)
Gender	Male - CONTROL	732	-	-	-
	Female	1053	1.06	0.53	0.88-1.27
Respondent's age (yrs)	16-24 - CONTROL	125	-	-	-
	25-39	464	0.87	0.38	0.62-1.19
	40-54	518	0.96	0.84	0.69-1.36
	55-64	268	1.19	0.42	0.78-1.81
	65+	410	2.01	0.04	1.02-3.95
Long-term illness, disability or infirmity?	Yes- CONTROL	660	-	-	-
	No	1125	1.44	0.00	1.15-1.81
Respondent's citizenship status	British citizen born in UK - CONTROL	1383	-	-	-
	British citizen born outside the UK	125	0.80	0.23	0.56-1.15
	Indefinite leave to remain	71	0.84	0.41	0.54-1.28
	Exceptional leave to remain	42	0.72	0.57	0.23-2.24
	Applied for asylum and awaiting initial decision	89	0.57	0.03	0.34-0.94
	Appealing refused asylum	21	0.95	0.94	0.28-3.20

	application/judicial review pending				
	EU Passport holder	54	0.90	0.66	0.57-1.42
Time lived in current home (yrs)	Less than 1 -CONTROL	171	-	-	-
	1	125	1.11	0.72	0.63-1.93
	2	147	0.94	0.81	0.55-1.59
	3	143	1.41	0.22	0.81-2.45
	4	124	1.78	0.03	1.06-3.01
	5	115	1.76	0.04	1.02-3.02
	6	76	1.07	0.83	0.59-1.92
	7-10	250	1.36	0.2	0.85-2.17
	11-20	321	1.75	0.02	1.09-2.18
	21+	313	1.5	0.14	0.88-2.52
Time lived in area (yrs)	Less than 1 -CONTROL	107	-	-	-
	1	71	0.56	0.91	0.46-1.98
	2	108	1.03	0.93	0.52-2.04
	3	89	0.52	0.06	0.26-1.03
	4	90	0.62	0.16	0.32-1.21
	5	71	0.63	0.17	0.32-1.21
	6	54	0.85	0.68	0.40-1.81
	7-10	196	0.95	0.86	0.54-1.68
	11-20	268	0.75	0.32	0.43-1.31
	21+	731	0.75	0.28	0.45-1.28
Employment status	NEET - CONTROL	805	-	-	-
	Employed	487	0.84	0.12	0.67-1.05
	Retired	493	0.65	0.15	0.36-1.17
Satisfaction with current employment status	Very dissatisfied - CONTROL	393	-	-	-
	Fairly dissatisfied	228	0.92	0.58	0.68-1.24
	Neither satisfied nor dissatisfied	175	0.95	0.76	0.68-1.33
	Satisfied	674	1.22	0.14	0.94-1.58
	Very satisfied	315	0.82	0.24	0.6-1.14
Respondent - In a relationship or not	Not in a relationship - CONTROL	1217	-	-	-
	In relationship	568	1.14	0.02	0.93-1.38
Satisfaction with current home	Very dissatisfied - CONTROL	116	-	-	-
	Fairly dissatisfied	137	0.83	0.40	0.54-1.28
	Neither satisfied nor dissatisfied	104	1.10	0.7	0.68-1.77
	Satisfied	823	1.50	0.04	1.03-2.2
	Very satisfied	605	1.27	0.25	0.84-1.92
Satisfaction with overall housing services	Very dissatisfied-CONTROL	87	-	-	-
	Fairly dissatisfied	121	1.07	0.8	0.65-1.76
	Neither satisfied nor dissatisfied	239	1.22	0.4	0.77-1.92

	Satisfied	885	1.74	0.01	1.13-2.67
	Very satisfied	453	2.47	0.00	1.57-3.89
Satisfaction with neighbourhood as a place to live	Very dissatisfied-CONTROL	113	-	-	-
	Fairly dissatisfied	124	2.49	0.00	1.56-3.98
	Neither satisfied nor dissatisfied	174	2.58	0.00	1.62-4.10
	Satisfied	897	4.65	0.00	3.12-6.91
	Very satisfied	477	5.78	0.00	3.76-8.89

Relationship status was shown to be associated with empowerment ($p=0.00$). The odds of reporting a higher level of empowerment were significantly higher for those in a relationship (1.14) than for those not in a relationship (odds ratio of 0), with all other variables held constant. Confidence intervals are narrow, suggesting a low range of error surrounding this finding.

There is also evidence of a significant ($p=0.00$) relationship between long-term illness and sense of empowerment. Table 4.3 shows that those who describe themselves as not suffering with a form of long-term illness, disability or infirmity have 1.44 greater odds of reporting an increase in their level of empowerment. That is, for a one unit increase in long-term illness (going from 'yes' response category, to the 'no' category), odds of feeling more empowered to be 1.44 are expected. Another significant association ($p=0.03$) exists for respondents who are awaiting the initial decision on their asylum application. Here there is a 0.57 increase in the odds that the respondent will report a one level increase in empowerment compared to the control group which comprised of British Citizens born in the UK. The model in Table 4.3 would suggest that citizenship is not a predictor of empowerment. Similarly, employment status or satisfaction was not significantly associated with empowerment. There is however an association with age. Those who are in the 65+ years old category, have a 2.01 odds increase in reporting an increase of one response category in their sense of empowerment compared to the 16-24 year olds control group.

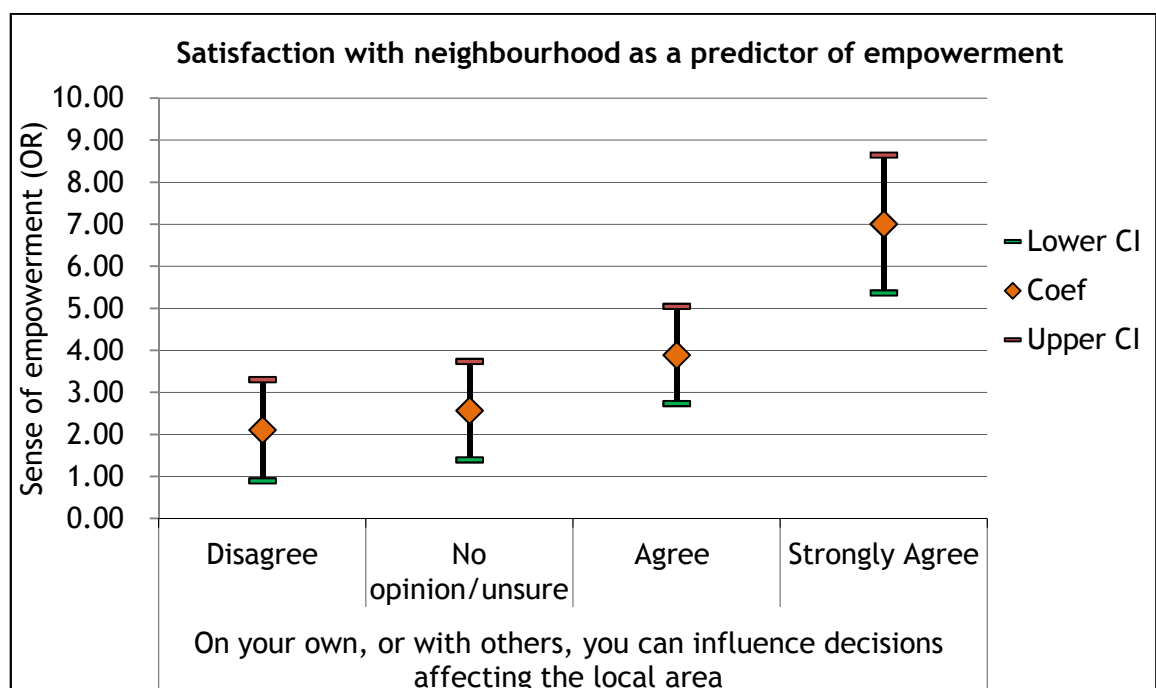
The satisfaction with housing services data highlighted that both those who were 'satisfied' (OR =1.74, $p=0.01$) and those who felt 'very satisfied' (OR=2.47, $p=0.00$) showed greater chance of feeling more empowered. Additionally, there is evidence that the more satisfied with the housing services, the greater the

odds of feeling empowered. This positive trend is also seen in the ‘home satisfaction’ variable yet no other association (within this variable) is significant aside from ‘satisfied’ respondents.

The duration of residence in an area does not show any pattern of association with respondents’ sense of empowerment. There was a significant association between living in the same home for 4, 5 or 11-20 years and respondents’ sense of empowerment (p-value <0.05) and for these three response categories there was little variation in their odds ratios (1.78, 1.75, 1.75), with those who had lived in their home for 4 years reporting a greater odds ratio of 1.78.

The variable that demonstrated the strongest association with empowerment, with significant odd ratios reported across all response categories was ‘*overall satisfaction with the neighbourhood as a place to live*’. Within this variable, as the satisfaction increased, so did the odds ratio of reporting a one level increase in sense of empowerment, with those who were ‘very satisfied’ having a 5.78 odds ratio of reporting a higher level of empowerment compared to the control group (‘very dissatisfied’ respondents). ‘Dissatisfied’ respondents had odds of 2.49. This strongly indicates that neighbourhood satisfaction is a predictor of empowerment, as depicted in Figure 4.2.

Figure 4.2: Overall neighbourhood satisfaction as predictor of empowerment



In summary, the analyses in Table 4.3 show that there are some variables of respondents' lives that act as predictors of their empowerment in an urban regeneration setting. Specifically:

- People in a relationship report a higher sense of empowerment than those who are not;
- Those aged 65+ have greater odds of reporting a higher level of empowerment;
- Those who do not suffer from a long-term illness feel more empowered;
- Those who are more satisfied with their overall housing services, their current home, or their neighbourhood as a place to live, feel more empowered than those who do not.

4.4.5 Aim 2 results

The focus of Aim 2 was to ascertain if an association between empowerment and respondents' social connections, participation in local activities and perception of their home and neighbourhood can be established.

Table 4.4: Adjusted ordered logistic regression results on participation and social interactions

Dependent variable: Participants level of empowerment (number of observations = 4000, number of missing observations = 254)					
Independent variables	Category	Participant numbers	Odds ratio	P-value	Confidence Intervals (95%)
Participation in social clubs/associations	No-CONTROL	3355	-	-	-
	Yes	645	0.94	0.41	0.80-1.09
Respondent reports sense of belonging	Not at all - CONTROL	329	-	-	-
	Not very much	543	1.37	0.08	0.97-1.95
	A fair amount	1467	1.55	0.01	1.099-2.20
	A great deal	1661	1.48	0.04	1.02-2.15
Respondent feels part of the community	Not at all- CONTROL	389	-	-	-
	Not very much	713	1.22	0.22	0.89-1.69
	A fair amount	1463	2.4	0.00	1.72-3.35
	A great deal	1435	3.92	0.00	2.72-5.64

Extent of acquaintance with people in the neighbourhood	No-one-CONTROL	150	-	-	-
	Very few people	1014	0.94	0.68	0.68-1.29
	Some people	1114	1.01	0.96	0.73-1.40
	Many people	901	1.19	0.32	0.84-1.67
	Most people	821	1.16	0.41	0.82-1.64
Geographical proximity of friends and family you meet regularly	Do not meet friends or relatives regularly - CONTROL	196	-	-	-
	Don't know	14	1.0	1.0	0.42-2.39
	Mostly live outside your area	1435	1.0	0.99	0.76-1.32
	About half and half	1103	0.89	0.43	0.69-1.19
	Most live locally	1252	0.96	0.78	0.72-1.28

Table 4.4 demonstrates that after adjustment, only 'feeling part of the community' or having a 'sense of belonging' show a link to sense of empowerment. Within the 'sense of belonging' data it is possible to identify associations with empowerment in the 'a fair amount' and 'a great deal' response categories. Here, with a p-value of 0.01, respondents who feel 'a fair amount' of 'belonging' to their neighbourhood have 1.55 greater odds of reporting a higher level of empowerment and those who responded 'a great deal' ($p=0.04$) to the same question have 1.48 odds of reporting a one level increase in their sense of empowerment. There is also an association between the respondents' sense of being part of their community 'a fair amount' or 'a great deal' and their feeling of empowerment (p -value <0.05). Unlike 'sense of belonging', 'feeling part of the community' does show an overall trend: the stronger the sense of being part of the community, the greater the odds of a one level increase in their empowerment. Thus, respondents reporting 'a fair amount' to the sense of belonging variable have an odds ratio of 2.4 whilst for 'a great deal' respondents the odds ratio increased to 3.92. Despite these two variables showing that being close to their community can act as a predictor of sense of empowerment, the extent of acquaintance to people in the neighbourhood, geographical proximity to friends and participating in local activities showed no association to empowerment.

4.4.6 Aim 3 results

Aim 3 is concerned with understanding whether there is a link between health and wellbeing and sense of empowerment within an urban regeneration context. As already seen in Table 4.3, long-term illness did act as a predictor for sense of empowerment, with non-sufferers of long-term illness, disability, or infirmity having a greater likelihood of having a greater sense of empowerment. The analyses in Tables 4.5 and 4.6 suggest that empowerment can act as an indicator for better health. As previously stated, each model presented was adjusted for age, gender, citizenship status, employment status and long-term illness.

Table 4.5 presents the results of the analyses undertaken to explore whether a respondent's general health score could be predicted from their empowerment level. There is a positive association between empowerment and general health, with an increase in health score (relative to the 'strongly disagree' control group) as sense of empowerment increases. The 'agree' and 'strongly agree' response categories both show a significant association ($p < 0.05$) with general health; 'strongly agree' respondents have a considerably higher health score (coef = 4.61) than the control groups.

Table 4.5: Adjusted regression results for SF-12v2 General Health score

Dependent variable: SF-12v2 Score (number of observations = 4051, number of missing observations = 203)						
Independent variable	Category	Participant numbers	Coefficient	Standard error	P-value	Confidence Intervals (95%)
On your own, or with others, you can influence decisions affecting the local area	Strongly disagree - CONTROL/REFERENCE	324	-	-	-	-
	Disagree	919	-0.17	0.72	0.81	-1.59-1.25
	No opinion/unsure	1173	1.26	0.70	0.07	-0.12-2.64
	Agree	1424	1.59	0.69	0.02	0.23-2.95
	Strongly agree	211	4.61	0.99	0.00	2.67-6.56

Table 4.6 summarises findings from the seven additional SF12v2 subscale analyses and also includes the two summary measures, Physical Component Score (PCS) and Mental Health Component Score (MCS). No evidence of an

association between empowerment and PCS is found. However, this is a stark contrast to the MCS regression results where there is a significant (p -value <0.05) positive association, with MCS improving as sense of empowerment increases (relative to the 'strongly disagree' respondents). This relationship is also shown in Figure 4.3.

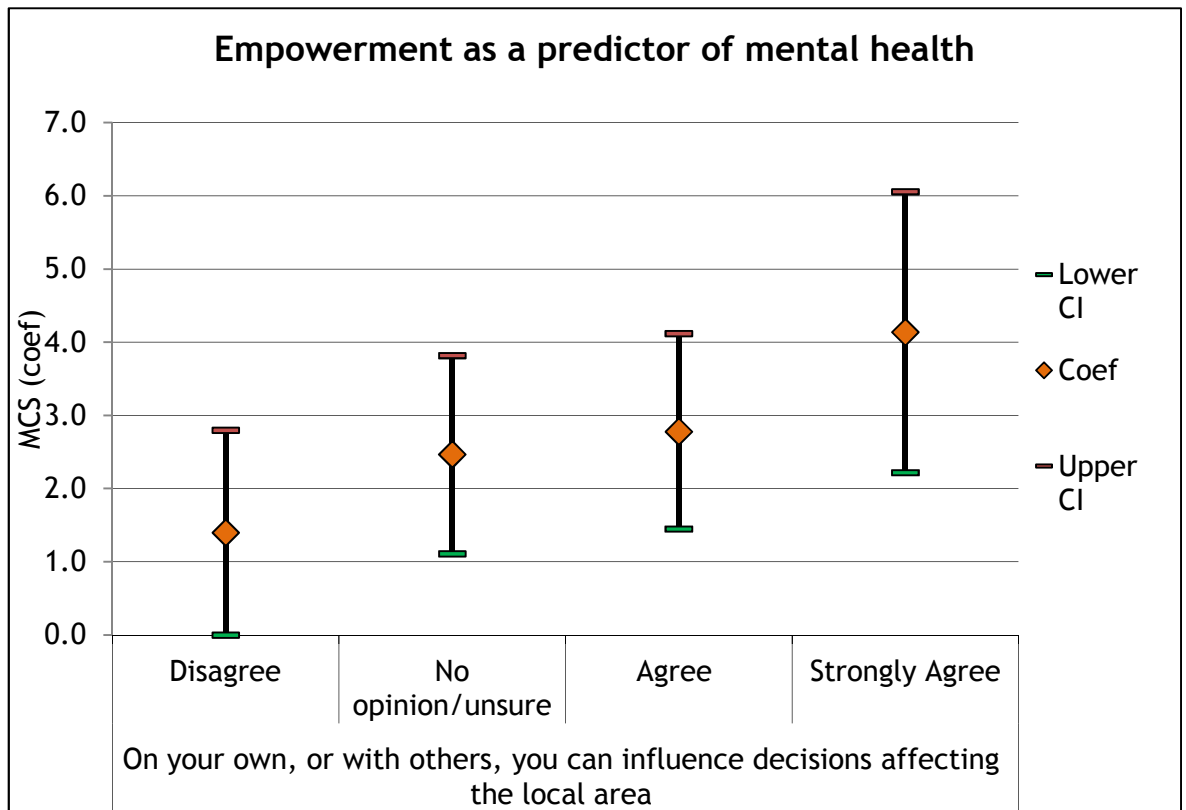
Table 4.6: Adjusted logistic regression analysis of SF-12v2 composite scores, individual domains/functions and empowerment

Independent variable	Category	Participant numbers	Coefficient	Standard error	P-value	Confidence Intervals (95%)
Dependent variable: SF-12v2 Physical Component Score (PCS) (number of observations = 3935, number of missing observations=319)						
On your own, or with others, you can influence decisions affecting the local area	Strongly disagree - CONTROL/ REFERENCE	320	-	-	-	-
	Disagree	895	0.42	0.66	0.52	-0.87-1.71
	No opinion/ unsure	1107	0.03	0.64	0.96	-1.23-1.29
	Agree	1407	0.3	0.63	0.64	-0.94-1.53
	Strongly agree	206	1.04	0.91	0.25	-0.73-2.82
SF-12v2 Mental Health Component Score (MCS) (number of observations = 3936, number of missing observations=318)						
On your own, or with others, you can influence decisions affecting the local area	Strongly disagree - CONTROL/ REFERENCE	321	-	-	-	-
	Disagree	895	1.4	0.71	0.05	0-2.8
	No opinion/ unsure	1107	2.47	0.69	0.00	1.11-3.82
	Agree	1407	2.78	0.68	0.00	1.45-4.12
	Strongly agree	206	4.14	0.98	0.00	2.22-6.06
Physical Functioning (PF) (number of observations = 4028, number of missing observations=226)						
On your own, or with others, you can influence decisions affecting the local area	Strongly disagree - CONTROL/ REFERENCE	327	-	-	-	-
	Disagree	917	1.02	0.65	0.12	-0.25-2.3
	No opinion/ unsure	1134	0.8	0.63	0.21	-0.44-2.03
	Agree	1439	0.86	0.62	0.17	-0.36-2.08
	Strongly agree	211	1.73	0.89	0.05	-0.17-3.48

Role Physical (RP) (number of observations = 4029, number of missing observations=225)						
On your own, or with others, you can influence decisions affecting the local area	Strongly disagree - CONTROL/ REFERENCE	327	-	-	-	-
	Disagree	917	0.94	0.62	0.13	-0.29-2.16
	No opinion/ unsure	1134	0.83	0.61	0.17	-0.36-2.02
	Agree	1440	0.91	0.6	0.13	-0.26-2.08
	Strongly agree	211	1.07	0.86	0.21	-0.61-2.75
Bodily Pain (BP) (number of observations = 4020, number of missing observations=234)						
On your own, or with others, you can influence decisions affecting the local area	Strongly disagree - CONTROL/ REFERENCE	325	-	-	-	-
	Disagree	909	1.13	0.71	0.11	-0.26-2.53
	No opinion/ unsure	1159	0.32	0.69	0.65	-1.04-1.68
	Agree	1415	1.08	0.68	0.11	-0.26-2.41
	Strongly agree	212	1.1	0.97	0.26	-0.81-3.01
Vitality (VT) (number of observations = 4021, number of missing observations=233)						
On your own, or with others, you can influence decisions affecting the local area	Strongly disagree - CONTROL/ REFERENCE	327	-	-	-	-
	Disagree	906	0.98	0.71	0.17	-0.41-2.36
	No opinion/ unsure	1161	1.53	0.69	0.03	0.19-2.88
	Agree	1416	2.04	0.67	0.00	0.72-3.37
	Strongly agree	211	5.75	0.97	0.00	3.85-7.64
Social Functioning (SF) (number of observations = 4008, number of missing observations=246)						
On your own, or with others, you can influence decisions affecting the local area	Strongly disagree - CONTROL/ REFERENCE	327	-	-	-	-
	Disagree	902	0.40	0.71	0.57	-0.99-1.79
	No opinion/ unsure	1160	1.47	0.69	0.03	0.13-2.28
	Agree	1412	1.14	0.68	0.09	-0.18-2.47
	Strongly agree	207	0.91	0.97	0.35	-1.00-2.82
Role Emotional (RE) (number of observations = 4019, number of missing observations=235)						
On your own, or with	Strongly disagree -	324	-	-	-	-

others, you can influence decisions affecting the local area	CONTROL/ REFERENCE					
	Disagree	911	0.88	0.75	0.24	-0.59-2.35
	No opinion/ unsure	1161	1.07	0.73	0.14	-0.36-2.51
	Agree	1412	1.53	0.72	0.03	0.12-2.94
	Strongly agree	211	1.46	1.02	0.15	-0.55-3.48
Mental Health (MH) (number of observations = 4014, number of missing observations=240)						
On your own, or with others, you can influence decisions affecting the local area	Strongly disagree - CONTROL/ REFERENCE	328	-	-	-	-
	Disagree	903	2.37	0.68	0.00	1.03-3.71
	No opinion/ unsure	1162	3.50	0.66	0.00	2.20-4.80
	Agree	1412	3.73	0.65	0.00	2.46-5.01
	Strongly agree	209	5.56	0.94	0.00	3.72-7.4

Figure 4.3: Empowerment as a predictor of better mental health score (MCS) within SF12v2



The seven subscales of the SF12 also show no relationship between empowerment and physical aspects of health (Table 4.6): ability to complete daily routine activities (physical functioning and role physical scales) or their experience of pain (bodily pain scale). No patterns of association are seen and there is only one significant association ('strongly agree' respondents in physical functioning). This contrasts with the vitality scale findings (the amount of energy respondents felt they had). Here there is a significant improvement in sense of vitality within 'unsure/no opinion', 'agree' and 'strongly agree' response categories as the level of empowerment improved. Thus, empowerment could be regarded as a predictor of level of vitality (p -value <0.05).

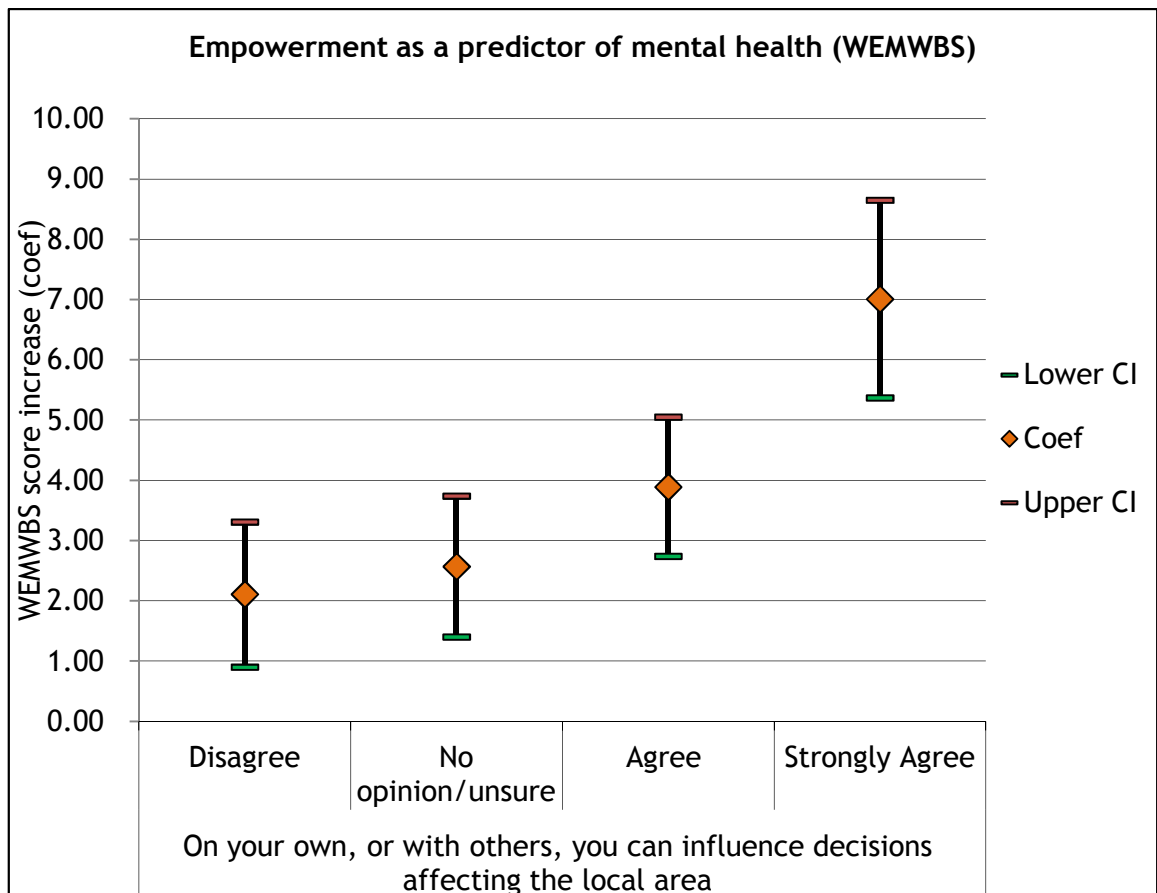
Within the subscales that focused on different aspects of respondents' mental health, there was evidence of positive associations. An increased sense of empowerment acts as a predictor of respondents feeling that either their physical health or emotional problems interfered with their social activities. That is, the more empowered the respondent is, the less they felt their physical or emotional health interfered with their social activities. The mental health subscale showed the strongest positive association with empowerment with all response categories being significant. The highest level of mental health was found in respondents who 'strongly' felt they could influence local decisions. The only mental health-related subscale that did not show a general significant positive association with empowerment was the 'role emotional' subscale where only the only significant result was for the 'agree' response ($p=0.03$). Within this category, respondents, relative to the control group, showed an increase in 1.53 in role emotion score. However, no overall pattern is seen in the subscale.

The results shown in Table 4.7 suggest that empowerment acts as a predictor of mental health and well-being as measured by WEMWBS. Significant associations are seen across all the response categories (p -value <0.05). Here, relative to the control group (those who 'strongly' believe they do not influence local decisions), the more empowered the individual feels, the higher their overall WEMWBS score. This is further depicted in Figure 4.4.

Table 4.7: Adjusted logistic regression analysis of WEMWBS overall score and empowerment

Dependent variable: WEMWBS Score (number of observations = 3908, number of missing observations = 346)						
Independent variable	Category	Participant numbers	Coefficient	Standard error	P-value	Confidence Intervals (95%)
On your own, or with others, you can influence decisions affecting the local area	Strongly disagree (control)	318	-	-	-	-
	Disagree	889	2.11	0.61	0.00	0.90-3.31
	No opinion/ unsure	1100	2.57	0.6	0.00	1.4-3.74
	Agree	1396	3.89	0.59	0.00	2.74-5.05
	Strongly agree	205	7.01	0.84	0.00	5.37-8.65

Figure 4.4: Empowerment as a predictor of better mental health (WEMWBS)



In order to provide further explanation of this strong association, it was possible to conduct ordered logistic analysis on the 14 questions within the scale.

Table 4.8: Adjusted ordered logistic regression of full WEMWBS statements and empowerment

Independent variable	Category	Number of participants	Odds ratio	Standard error	P-value	Confidence Intervals (95%)
Been feeling optimistic about the future (number of observations = 3983, number of missing observations = 271)						
On your own, or with others, you can influence decisions affecting the local area	Strongly disagree - CONTROL/ REFERENCE	325	-	-	-	-
	Disagree	894	1.43	0.17	0.00	1.13-1.81
	No opinion/ unsure	1146	1.70	0.2	0.00	1.35-2.14
	Agree	1406	2.22	0.26	0.00	1.77-2.78
	Strongly agree	212	3.16	0.52	0.00	2.29-4.36
Been feeling useful (number of observations = 3996, number of missing observations = 258)						
On your own, or with others, you can influence decisions affecting the local area	Strongly disagree - CONTROL/ REFERENCE	328	-	-	-	-
	Disagree	895	1.28	0.15	0.04	1.01-1.62
	No opinion/ unsure	1150	1.36	0.16	0.01	1.08-1.71
	Agree	1412	1.57	0.18	0.00	1.26-1.97
	Strongly agree	211	2.59	0.43	0.00	1.87-3.59
Been feeling interested in other people (number of observations = 4003, number of missing observations = 251)						
On your own, or with others, you can influence decisions affecting the local area	Strongly disagree - CONTROL/ REFERENCE	326	-	-	-	-
	Disagree	898	1.11	0.14	0.38	0.88-1.42
	No opinion/ unsure	1154	1.24	0.15	0.07	0.98-1.56
	Agree	1413	1.53	0.18	0.00	1.21-1.92
	Strongly agree	212	2.87	0.49	0.00	2.06-4.00
Been feeling relaxed (number of observations = 4007, number of missing observations = 247)						
On your own, or with others, you can influence decisions affecting the local area	Strongly disagree - CONTROL/ REFERENCE	328	-	-	-	-
	Disagree	899	1.37	0.17	0.01	1.08-1.75
	No opinion/	1154	1.74	0.21	0.00	1.38-2.21

	unsure					
	Agree	1414	1.93	0.23	0.00	1.53-2.44
	Strongly agree	212	3.83	0.66	0.00	2.73-5.36
Have had energy to spare (number of observations = 4004, number of missing observations = 250)						
On your own, or with others, you can influence decisions affecting the local area	Strongly disagree - CONTROL/ REFERENCE	328	-	-	-	-
	Disagree	899	1.04	0.12	0.76	0.83-1.31
	No opinion/ unsure	1154	1.25	0.14	0.06	1.0-1.56
	Agree	1411	1.43	0.16	0.00	1.15-1.79
	Strongly agree	212	2.93	0.49	0.00	2.12-4.06
Dealing with problems well (number of observations = 3993, number of missing observations = 261)						
On your own, or with others, you can influence decisions affecting the local area	Strongly disagree - CONTROL/ REFERENCE	325	-	-	-	-
	Disagree	898	1.09	0.13	0.49	0.86-1.38
	No opinion/ unsure	1149	1.1	0.13	0.43	0.87-1.39
	Agree	1409	1.34	0.16	0.01	1.06-1.68
	Strongly agree	212	2.28	0.39	0.00	1.63-3.17
Been thinking clearly (number of observations = 4004, number of missing observations = 250)						
On your own, or with others, you can influence decisions affecting the local area	Strongly disagree - CONTROL/ REFERENCE	328	-	-	-	-
	Disagree	899	1.11	0.13	0.39	0.88-1.41
	No opinion/ unsure	1153	1.09	0.13	0.46	0.87-1.37
	Agree	1412	1.32	0.15	0.02	1.05-1.66
	Strongly agree	212	1.78	0.30	0.00	1.28-2.48
Feeling good about myself (number of observations = 4000, number of missing observations = 254)						
On your own, or with others, you can influence decisions affecting the local area	Strongly disagree - CONTROL/ REFERENCE	328	-	-	-	-
	Disagree	898	1.31	0.16	0.03	1.03-1.65
	No opinion/ unsure	1150	1.6	0.19	0.00	1.27-2.01
	Agree	1412	1.79	0.21	0.00	1.43-2.24
	Strongly agree	212	3.03	0.51	0.00	2.18-4.21

Table 4.8 continued

Independent variable	Category	Number of participants	Odds ratio	Standard error	P-value	Confidence Intervals (95%)
Feeling close to other people (number of observations = 3996, number of missing observations = 258)						
On your own, or with others, you can influence decisions affecting the local area	Strongly disagree - CONTROL/ REFERENCE	328	-	-	-	-
	Disagree	895	1.18	0.14	0.174	0.93-1.5
	No opinion/ unsure	1150	1.32	0.16	0.02	1.04-1.66
	Agree	1412	1.56	0.18	0.00	1.24-1.96
	Strongly agree	211	2.27	0.38	0.00	1.63-3.16
Been feeling confident (number of observations = 3993, number of missing observations = 261)						
On your own, or with others, you can influence decisions affecting the local area	Strongly disagree - CONTROL/ REFERENCE	327	-	-	-	-
	Disagree	896	1.23	0.15	0.08	0.97-1.56
	No opinion/ unsure	1149	1.46	0.17	0.00	1.15-1.84
	Agree	1409	1.69	0.2	0.00	1.34-2.12
	Strongly agree	212	2.6	0.44	0.00	1.87-3.61
Able to make own mind up about things (number of observations = 3993, number of missing observations = 261)						
On your own, or with others, you can influence decisions affecting the local area	Strongly disagree - CONTROL/ REFERENCE	327	-	-	-	-
	Disagree	896	1.27	0.16	0.05	1.00-1.62
	No opinion/ unsure	1149	1.17	0.14	0.2	0.92-1.47
	Agree	1409	1.30	0.15	0.03	1.03-1.64
	Strongly agree	212	2.0	0.34	0.00	1.43-2.79
Been feeling loved (number of observations = 3974, number of missing observations = 280)						
On your own, or with others, you can influence decisions affecting the local area	Strongly disagree - CONTROL/ REFERENCE	322	-	-	-	-
	Disagree	893	1.23	0.16	0.05	1.00-1.62
	No opinion/ unsure	1143	1.04	0.12	0.76	0.82-1.31
	Agree	1406	1.33	0.16	0.02	1.06-1.68
	Strongly agree	210	1.85	0.31	0.00	1.32-2.58

Table 4.8 continued

Independent variable	Category	Number of participants	Odds ratio	Standard error	P-value	Confidence Intervals (95%)
Been interested in new things (number of observations = 3983, number of missing observations = 271)						
On your own, or with others, you can influence decisions affecting the local area	Strongly disagree - CONTROL/ REFERENCE	325	-	-	-	-
	Disagree	893	1.47	0.18	0.00	1.16-1.86
	No opinion/ unsure	1145	1.45	0.17	0.00	1.16-1.82
	Agree	1408	1.79	0.20	0.00	1.43-2.24
	Strongly agree	212	2.63	0.44	0.00	1.9-3.66
Been feeling cheerful (number of observations = 3995, number of missing observations = 259)						
On your own, or with others, you can influence decisions affecting the local area	Strongly disagree - CONTROL/ REFERENCE	328	-	-	-	-
	Disagree	896	1.22	0.15	0.11	0.96-1.55
	No opinion/ unsure	1149	1.37	0.16	0.01	1.09-1.74
	Agree	1411	1.64	0.19	0.00	1.30-2.07
	Strongly agree	211	2.61	0.44	0.00	1.87-3.65

Table 4.8 highlights that for every aspect of mental well-being within the WEMWBS scale, both response groups that either 'agree' or 'strongly agree' that they can influence local decisions have associations ($p\text{-value} < 0.05$) with all aspects of health within the scale. However, despite this general trend, Table 4.8 also shows that there are some specific aspects of mental health that have the stronger links to empowerment, with associations ($p\text{-value} < 0.05$) found throughout all levels of the empowerment response categories. Feeling optimistic about the future, feeling useful, feeling relaxed, feeling good about themselves and showing interest in new things all show strong evidence of association with empowerment. Each of these components of mental well-being increased as sense of empowerment increased. That is, the odds ratio of reporting a one response category increase in each of these aspects of health becomes greater as the respondent's sense of their empowerment increases.

Furthermore, the scale builds on some of the findings shown in Section 4.4.5 where the results related to Aim 2 illustrated that social connections and relationships with others could be linked to empowerment.

4.5 Discussion

The regression analyses conducted using the GoWell data has suggested potential associations between some behavioural characteristics and empowerment within an urban regeneration context, and pinpoint how empowerment can be linked to health within this specific context. However, careful consideration is required what conclusions, if any, can be drawn from the work conducted.

In 1965 a British medical statistician Austin Bradford Hill published ‘The Environment and Disease: Association or Causation?’ in which he presented different conditions that are needed in order to determine a causal relationship between social phenomena (Hill, 1965). Originally applied to epidemiology, they have since been used in social and behavioural studies to explain the occurrence of events and reasons for them (Marini and Singer, 1988, Reiss, 2009). Hill’s criteria for determining causality within findings are listed below (Hill, 1965, Fedak et al., 2015):

1. Strength of association - the larger the association (between exposure and disease) the more likely it is causal;
2. Consistency - for causality to be determined an association should be found repetitively in different studies and among different populations;
3. Specificity - associations may be seen as causal when they are specific;
4. Temporality - study designs that ensure a temporal progression where exposure precedes disease onset;
5. Biological gradient - Hill states that the presence of a dose-response relationship supports a causal association between effect and exposure;
6. Plausibility - also referred to as ‘biological plausibility’ there must be a theoretical basis of the association (existing biological or social models);
7. Coherence - similarly to criteria six, the cause and effect should fit with existing knowledge available to the researcher;
8. Experiment - evidence due to experimental ‘manipulation’ supports causal inference;

9. Analogy - whether an association can be suggested due to an alternative explanation. If not this supports causality.

Whilst these nine 'viewpoints' of association are not supposed to be used as a definitive checklist for causation, they can serve as a framework for identifying causal inference (Fedak, et al., 2015). The GoWell analyses suggest there are some specific 'predictors' of empowerment that can be taken forward in the further empirical work within this thesis. They identified that being in a relationship, age, satisfaction with housing services, current home, the neighbourhood as a place to live, feeling part of the community, and having a sense of belonging to the local community, all act as positive indicators of empowerment. This could be seen as adhering to Hill's plausibility criteria as it provides further substantiation of theories presented by Zimmerman (1995) and findings from the systematic review reported in Chapter 3 such as Nienhuis et al., (2011), that closely linked to an individual's sense of empowerment is their ability to interact with others and build relationships with them. Additionally, the data suggests that there is a link between a respondent's level of health and their sense of their empowerment, and potentially, the community's empowerment. Within both the health scales (SF-12 and WEMWBS) empowerment is suggested as a predictor for mental health. Arguably, support for the 'plausibility' of these associations is shown in Chapters 2 and 3 of this thesis (Laverack, 2006, Woodall and Raine et al., 2010, Wallerstein, 2006).

However, Hill's criterion highlights some limitations of the data presented in this Chapter. Cross-sectional studies such as the work presented in this Chapter are susceptible to various types of bias. The temporal relationship of an association can be difficult to ascertain as the cause and effect are recorded and measured at the same time point. The analyses were conducted with cross-sectional data collected within regeneration programmes as part of a longitudinal programme however the findings are not linked to baseline data collected from the study areas. The lack of baseline data comparison means that participant sense of empowerment over the course of the regeneration programme and the potential effect of continual exposure to local activities and consultation efforts throughout the delivery of the regeneration programmes cannot be determined. Knowledge of existing potential associations between sense of empowerment and socio-demographic and wellbeing characteristics would provide clarification

if the effects shown have changed over the course of the regeneration programme and may have provided more context for the associations recorded in Section 4.4, over five years later. This evidence of the long-term effect of living with regeneration over a period of time could provide alternative explanations for the associations found in this study.

The study suggests that mental health and sense of empowerment are associated with health as a predictor on a participant's sense of empowerment within urban regeneration. Yet without prior knowledge of the participant's health and empowerment over time and changes from baseline does not allow the study to remove the possibility of reverse causation and conclude a direct cause and effect relationship. This study supports the claim that health and empowerment are linked but the direction of effect cannot be determined. Furthermore, as discussed in Section 2.3.3, within the field of urban regeneration, work by Dargan (2009) and Lawson and Kearns (2014) have demonstrated the difficulties in ensuring effective CE strategies which take a whole communities views into consideration. Failure to do so has been shown to be linked sentiments of frustration, loss of control and a lack of social cohesion. This has been further shown in the review presented in Chapter Three. Positive health links and success of empowerment strategies is reliant on how strategies are developed and are extremely CE context sensitive (Khawaja, 2005). It must be recognised that there is a risk of selection bias within this study as participants volunteer to take part and be surveyed. This may lead to sampling of participants who are particularly motivated which could distort some of the study's findings. It is possible that this 'self-selection' may have contributed to the strength of be positive mental health gains reported. However, the lack of association between sense of empowerment and participation in local activities reported in the findings suggests that residents surveyed are not characterised by high levels of community involvement. The GoWell study examines residents' experiences of regeneration. A large number of complex factors may influence the outcomes reported as the study areas are disadvantaged, inner-city areas undergoing multiple types of regeneration over a large period of time and the generalisability of the findings will depend on the extent to which other neighbourhoods resemble the setting of these Glasgow neighbourhoods and their history.

Lastly, it is important to consider the possibility of multiplicity within the findings as a result of multiple testing. The study using the GoWell dataset to examine three key aims and builds on previous cross-tabulations undertaken (Section 4.3). The use of p-values is to establish the statistical strength of findings and 95% confidence intervals to provide information about the range “in which the true value lies with a degree of probability, as well as about the direction and strength of the demonstrated effect” (Du Prel et al., 2009). As discussed in Du Prel et al., (2009), a 95% selected level of confidence is commonly used in scientific studies. As shown throughout this Chapter, a 95% confidence interval was used. However, despite the statistically significant p-values and narrow confidence intervals shown, the presented findings at risk of multiplicity (Tsuchiya, 2014, Austin et al., 2006). As Tsuchiya (2014) highlights, the use of a large number of explanatory variables in regression analysis for multiple hypothesis testing can lead to a risk of false significance by multiplicity.

“If we test only one null hypothesis using 0.05 as cut off point of significance, it is correct to regard a p value less than 0.05 as statistically significant. However, if we concurrently test two independent null hypotheses, the probability that at least one will be significant is $1-(1-0.05)\times(1-0.05)=0.098$, not 0.05. If we test 10 such hypotheses, the probability that at least one of those will be significant is $1-(1-0.05)^{10}=0.40$, which is much larger than 0.05” (Tsuchiya, 2014:1).

In their study on spurious associations due to multiple testing, Austin et al., (2006) were able to conclude that only two associations remained statistically significant when retested in an independent validation cohort. Originally there had been 24 statistically significant associations. Guidance for further testing approaches such as the method of Bonferroni and Holm are provided in studies such as Berry (2012) and Katz (2010). The methods used within this study and their limitations are not unique within health and social science studies. The design of the study, as outlined previously, limits the conclusions which can be drawn. Findings presented in this Chapter could be further substantiated with further testing however this is beyond the scope and timescale of this project

4.6 Conclusions

The work presented thus far by the thesis has provided some evidence to support claims within existing literature that ‘sense of control’, ‘self-efficacy’, and ‘self-esteem’ are linked to empowerment. The analyses in this chapter further demonstrate an association within the context of urban regeneration. However as discussed in Section 4.5, there are limitations to the study and thus causality cannot be confirmed.

This thesis is concerned with the identification, measurement and valuation of community empowerment (CE) elements within urban regeneration programmes with a view to generating initial evidence for an economic evaluation of empowerment promoting activities. Whilst acknowledging the limitations of the findings presented in Chapters 3 and 4 (and their possible bias), the thesis has identified elements of empowerment to be taken forward, described how levels of empowerment (individual and community) could be linked, and has shown how CE could be measured through an individual’s values. These chapters have also illustrated how urban regeneration programmes may impact on sense of empowerment through promoting elements of CE such as trust in stakeholders, sense of belonging and access to information/knowledge. Lastly, they have found an association between CE and reporting better general health and mental wellbeing. This has been achieved firstly, by scoping evidence of the link between empowerment and health as shown in Chapter 2. Secondly, in Chapter 4, secondary data analyses conducted with the GoWell longitudinal research programme of neighbourhoods experiencing regeneration has demonstrated that general health and mental wellbeing could be linked to CE within an urban regeneration programme. It is important to note that these analyses used the GoWell CE variable, whose wording incorporated both elements of PE and CE (‘on your own, or with others, you can influence decisions affecting your local area’). Indeed, by further highlighting a relationship between this measure of empowerment and variables of social connectedness (such as sense of belonging), the analyses further evidenced the elements of CE that had been previously highlighted in the literature (Chapter 3) and, as first discussed in Chapter 2, that CE should not be considered in isolation from PE.

It has also been possible to further highlight how CE can be regarded as both a surrogate interim process and an outcome. Whilst CE can be considered a desired outcome of urban regeneration, findings have shown it to be associated with health, more specifically, better reported general health and mental wellbeing. As such, it could be seen as an intermediate outcome that can be linked to health, addressing Research questions 1-3 and their associated sub-questions. The evidence presented in the thesis thus far does not prove causation and future work on determining the direction of the relationship between health and empowerment would be beneficial and will be recommended in the final conclusions of the thesis as it is beyond the scope of this project. Therefore CE will be continued to be viewed as an intermediate outcome as a possible covariate in predicting health outcomes (Velentgas et al., 2013).

Chapter Five: Economic Evaluation Methodology

5.1 Introduction

Moving forward from Chapter 4, the challenge now facing the thesis is that of research question 4 *‘Can economic evaluation techniques be used to measure and value CE as an outcome of urban regeneration programmes?’*

As previously outlined in Chapter 2, empowerment at any level is context-specific and currently there is no firmly established ‘one size fits all’ delivery of empowerment within urban regeneration programmes. Furthermore, whilst having identified CE elements within an urban regeneration context, the relative preference and value attributed to each element is currently not known. Therefore, in order to approach this fourth research question, this Chapter presents a summary of established economic evaluation techniques. In doing so, the intention is to best understand how CE, as a complex and context-specific outcome of urban regeneration programmes, can be measured and valued using such economic evaluation techniques. This chapter will firstly introduce what is meant by economic evaluation and why it is needed in health care. This chapter will then outline the main types of economic evaluation methodologies before describing the application of economic evaluation techniques to PHIs (with recognition that urban regeneration programmes are increasingly accepted as a form of PHI) (Bond et al., 2013, MacGregor, 2010). Lastly, the chapter will explore the challenges of conducting economic evaluations to PHIs in order to inform the next stages of this research.

5.2 Why do we need economic evaluation in health care?

“Economics is the science of scarcity. It analyses how choices are structured and prioritised within constrained resources” (Haycox, 2009b:2).

Economic decisions made in any economic system are commonly conducted through markets by the interaction of those who wish to buy (buyers, or consumers) and those who wish to sell (sellers, or suppliers) (Parkin, 2009). In a perfect market consumers and sellers are able to base their choice of whether

they ought to buy or sell resulting from the price of the product in question as price acts as the key decisive factor. Thus, scarce resources are allocated to produce high demand goods over those in lower demand. Furthermore, suppliers wish to generate as much profit as possible for their goods and also seek to reduce production costs. This demonstrates how a market decides how goods are produced as well as for what and for whom (Parkin, 2009).

As Arrow (2004), Savedoff (2004), Donaldson and Gerard (1993) and Mooney (1992) state, within healthcare the existence of free markets, without interaction and involvement from governments is rare, if not non-existent. A market for health care must work within regulated environments and “is financed from the public purse either explicitly or through tax expenditures” (Hurley, 2000:57).

“A market is simply an adjustment mechanism for supply and demand which permits the exchange of goods and services between consumers and producers without the need for government intervention” (Donaldson and Gerard, 1993:13).

An economic perspective examines the allocation of resources around the notion of scarcity (Byford et al., 2003, Miller, 2009). As resources are limited in all sectors of society a ‘priority-setting’ exercise needs to inform optimal resource allocation. Demand refers to a consumer’s willingness to pay for a good or service whilst supply refers to the production of the good or service and how production costs and final prices affect the quantity of goods made available (Mooney, 1992). Demand states that those who are often best placed to determine the value of a good or service are consumers (those who will benefit from them). Consumers are seen as wanting to maximise their wellbeing (utility) and the greater the utility gain, the more they are willing to pay (Mooney, 1992). A perfect health care market would be one in which both suppliers and consumers were left fully satisfied as suppliers could sell their products (and maximise their profits) and consumers would buy in accordance to their needs or wishes (maximising their utility). Applying the classical model of economic behaviour to healthcare would assume that consumers are fully informed and thus able to compare the costs and benefits (impact on their wellbeing) of

health to other available goods. Furthermore, on the supply side, producers would be incentivised to adjust (lower) their prices and compete with one another in order to maximise their profits and ensure that the knowledgeable consumer will seek out their attractive prices. This would result in appropriate resources “being allocated to healthcare overall and to different types of health care” (Donaldson and Gerard, 1993:15). This would produce both allocative and technical efficiency as societal wellbeing is maximised at the lowest societal cost. ‘Allocative efficiency’ is the choice of *what* health care should be provided whilst the decision on *how* it ought to be provided is referred to as ‘technical efficiency’ (Drummond et al., 2015). Allocative efficiency concerns the identification of the best mix of services that results in the greatest total benefit. Technical efficiency, ascertains the best (minimum) input for a desired outcome. The outcome is fixed but *how* it can be achieved in the most efficient manner requires investigation (Drummond et al., 2015, Miller, 2009).

Achieving these types of efficiencies however would be reliant on both consumers being completely informed and thus able to make key decisions about their wellbeing and, on income distribution being fully fair and equitable as a free healthcare market would be dependent on a consumers ‘ability to pay’ (McGuire et al., 1988, Donaldson and Gerard, 1993). Markets for healthcare differ from those for other services and goods and are often described as experiencing ‘market failure’. There are a number of reasons for this failure relating back to the assumption of the consumer being best informed to guide decisions maximising their wellbeing. Within healthcare there exists the asymmetrical distribution of information between providers and consumers (McGuire et al., 1988, Donaldson and Gerard, 1993). Patients (the consumers) are often dependent on medical professionals to inform their decisions and as consequence of this asymmetry of information, their decision-making ability is impaired. Illness involves a large amount of risk and uncertainty and is financially expensive. Thus, it may be difficult not only for doctors to predict with full certainty the outcome of a treatment (good/service) but also for the patient to determine the quality of the doctor and their decisions. As such, the value of the healthcare ‘product’ cannot fully be established (Mooney, 1992). Whilst in normal markets, sellers’ and buyers’ preferences are revealed through their actions (McIntosh, 2011b), the unpredictability of ill health and its

treatment requires specialised information (Savedoff, 2004) since health care has peculiarities which differentiate it from other markets in the economy and incorporates a number of government interventions (McIntosh, 2011b). Additionally, in other markets price competition is an important consideration. However, in healthcare the role of price involves questions of ethics. Unlike the consumption of goods and services for which there is a demand, the demand for healthcare is a derived demand from the demand for health and as such, it is often viewed as unethical for price competition to exist in healthcare (Mooney, 1992).

These considerations have been tackled differently throughout the world as a result of different political and ideological structures with some countries such as the United States structuring their healthcare system around a fee paying, health insurance dominated system compared to the UK's current zero payment at point of consumption NHS system. Knowledge on what healthcare delivery system will provide the most efficient and equitable allocation of resources is ultimately one of the questions addressed by normative or 'welfare' economics (Hurley, 2000). As Haycox (2009b) outlines, scarcity of resources necessitates a need to look beyond immediate outputs or benefits of one intervention or action and recognise the potential to improve total societal well-being.

“Normative economics is precisely about attempting to rank, from better to worse from an economic perspective, resource allocations and the policies that generate them” (Hurley, 2000:57).

The presence of market failure within healthcare necessitates the need for the best policy actions to be identified and ranked and hence suits the domain of normative economic analyses. A key concept that pervades development of frameworks within health economics is 'efficiency' (Culyer, 1989). Whilst 'positive economics' presents a set of assumptions from which it is possible to make statements about 'what happened' and starts with a hypothesis from which conclusions and theorems can be deduced, normative approaches seek to make value judgements and deals with the desirability of an outcome/policy and questions what 'ought to happen' or 'should be'. That is, the latter derives its 'ought to' statements and judgements from the ethics of the community.

Efficiency can refer to the previously defined allocative and technical efficiencies in addition to cost-effectiveness efficiency which refers to achieving the minimal cost for a given output (Drummond et al., 2015). Cost-effectiveness and technical efficiency both refer to demand whilst allocative efficiency includes demand/consumption considerations (Culyer, 1989). Furthermore, technical efficiency is required for cost-effectiveness and both cost-effectiveness and technical efficiency are required for allocative efficiency, a hierarchy of sorts (Hurley, 2000).

Within a welfarist (normative) 'value' is most commonly determined through an individual's utility or welfare (as a function of the goods or services consumed) and does not include non-utilities and differs from extra-welfarism where non-good related utility is considered and as Culyer (1989) states "transcends traditional welfare: it does not exclude individual welfare from the judgement about the social state, but it does supplement them with other aspects of individuals" (1989:36). Researchers such as Culyer (1990) have incorporated extra-welfarist notions of Sen (1979) into a normative framework that moves away from demand to incorporate the notion of need and uses health as a final outcome over utility. This places health as the primary outcome of interest over welfarist approaches that regard goods and services as the output units (Culyer, 1989).

"A clear social objective for health policy is to improve health. Health care has been singled-out as a policy concern because of its primary objective is to produce health. Even if health is a primary concern, however, the public and policy makers clearly care about more than health"(Hurley, 2000:108).

Often a key consideration for decision-makers and health economists is the question of equity, addressing competing claims and distribution of a good and service and its trade-off with efficiency. If we regard efficiency as health maximisation whereby resources are allocated in the most optimal manner, there is no consideration for equity issues. However, as health is increasingly regarded as a critical aspect to a person's wellbeing, impacting on their productivity and capability, factors of social justice and fairness are raised

(Weatherly et al., 2009). Should an individual or community have the misfortune to experience ill-health due to circumstances beyond their control, justice arguments would suggest that they “should receive treatment on their basis of their need for care, not on the basis of non-health-related attributes (such as ability-to-pay, as is the case for most commodities)” (Hurley, 2000:87). Two underlying principles of equity within healthcare are vertical and horizontal equity. Horizontal equity refers to the “equal treatment of equals and vertical being the unequal but equitable treatment of unequals” (Mooney, 2000:204). As Mooney (2000) states, vertical equity is a form of positive discrimination. With growing inequalities there has been a call to ‘redistribute’ benefits across populations, however there are costs associated with this and in a scarce, limited resources context equity versus efficiency is a key concern. As Sassi et al. (2001) highlight, there is a lack of agreement of how health policy can both address the prioritised policy aim of reducing widening health inequalities and satisfy the goal of efficiency. Researchers such as James et al. (2005) have suggested that a transparent approach can be undertaken through using agreed specified efficiency and equity criteria (such as cost-effectiveness as efficiency and, vertical and horizontal equity), scoring an intervention based on this criteria and then using relative weighting of each. However, despite presenting this priority setting approach, James et al., (2005) emphasise that this prioritisation activity should not be viewed as a technical solution and that the relative importance of each criteria is inherently normative. They suggest that there is no hard and fast rule for determining the weightings and that specific (for the intervention and population in question) empirical work would be required.

As will be discussed in this chapter, the question of equity is often raised in the evolving methodological field of conducting economic evaluations of PHIs (such as urban regeneration) with their focus at the population level, across population sub-groups and a key objective of the intervention often being to reduce health inequalities (Weatherly et al., 2009).

Whether looking at utility, non-health related utility or health as the final output/outcome, the role of health economists as a form of policy advisor has grown. Welfarist approaches are seen to maximise societal welfare within a

societal budget constraint whilst extra-welfarist is considered as looking at maximising health effects within a budgeted health system (Buchanan and Wordsworth, 2015). As the following sections will go on to highlight, there are a number of economic evaluation techniques which can be conducted depending on the approach and output desired.

“Health does have characteristics that more conventional goods have - it can be manufactured; it is wanted and people are willing to pay for improvements in it; and it is scarce relative to peoples wants for it [...] It is less tangible than most other goods and cannot be traded, it cannot be passed from one person to another (although obviously some diseases can)” (Parkin, 2009).

As Haycox (2009) outlines, the ability of healthcare systems to provide care exceeds the ability to pay for all care options available. Indeed, demographic changes, and ever advancing technology have meant health care decision makers now face increasingly difficult choices. The implication and consequences of these choices represent the sacrifices to other activities, known as ‘opportunity costs’ (Rudmik and Drummond, 2013), “the benefits that must be forgone by not allocating resources to the next best activity” (Goodacre and McCabe, 2002:198). Simply stated if resources are directed towards one course of action then the opportunity costs are the forgone outputs from the not chosen next best option. By ensuring that benefits gained exceed those lost (opportunity cost) and the equitable distribution of health care resources, there is a need to understand which spending options represent the most efficient and equitable allocation of resources. Furthermore, as Donaldson et al. (2004) outline, health care decisions are often subjected to government intervention “based on political ideology but are also, it is claimed, results of economic or financial pressures [...] scant regard is paid to the economic principles and economic evidence on the costs and effects” (Donaldson and Gerard, 1993:3).

Therefore, with market conditions being ‘violated’ and the presence of market failure, the work of health economists and their economic evaluations can provide invaluable insight and guidance on the optimal organisation and financing of health care and how best resources can be allocated among

alternative uses in an efficient and fair manner (Kernick, 2003). Economic evaluation methods can also enable the valuation of a non-marketed good or service such as health care which is not directly bought or sold in a market place (McIntosh, 2011a). What is meant by economic evaluation and how it is undertaken will now be discussed.

5.2.1 What is Economic Evaluation?

“The comparative analysis of alternative courses of action in terms of both their costs and consequences” (Drummond et al., 2015:4)

In the recent past, technological and theoretical advances have ensured that our ability to provide numerous options for treatments and interventions has grown exponentially (Kobelt, 2002). Such advancements have led to ever increasing demand, resulting in a strain on health care resources. As a consequence, the use of economic evaluation techniques for guidance in determining how best to allocate resources and funding has become commonplace (Kobelt, 2002, Byford et al., 2003). This is especially pertinent given current economic uncertainty and budgeting restraints (HM Treasury, 2013). Indeed, the 2013-2015 budget plan indicated that the public healthcare budget will be protected from cuts; however, with most other sectors losing up to 1% of their budgets 2013-2015 (HM Treasury, 2013), it is imperative to fully engage with the need to ensure the most cost-effective spending decision-making is undertaken. The main objective is to achieve ‘value for money’, meeting a desired objective with the least spend possible, or, provide the maximum benefit to the population from a set budget (Haycox, 2009a).

The two-volume guidance to technical and practical issues when conducting economic evaluations (with emphasis on those conducted in the social welfare field), funded by the Joseph Rowntree Foundation (JRF) (Byford et al., 2003, Sefton et al., 2002), highlighted that the main purpose of applying economic evaluation techniques is to allow the researcher to evaluate both an intervention’s costs and outcomes. This is unique to economic evaluations since other forms of evaluations often focus solely on the calculation of an intervention’s outcomes. Consequently, by providing a comparative analysis of

alternative courses of actions in terms of cost and consequence, the researcher can give guidance as to which course of action is the most cost-effective.

“To put it simply, resources- people, time, facilities, equipment, and knowledge- are scarce. Choices must and will be made concerning their deployment, and methods such as ‘what we did last time’, ‘gut feelings’, and even ‘educated guesses’ are rarely better than organised consideration of the factors involved in a decision to commit resources to one use instead of another” (Drummond et al., 2015:2).

Here, Drummond et al. (2015) state that at the heart of any economic evaluation two key characteristics define the process no matter the context nor the activity/intervention which it hopes to appraise. Firstly, a true economic evaluation incorporates both inputs and outputs. Secondly, often within treatments/interventions circumstances necessitate decision-making as researchers must offset the benefits of one course of action with another as they choose which will reap the most desirable outputs (Rudmik and Drummond, 2013). Furthermore they should consider the opportunity costs of the decisions they make. These choices adhere to a criterion chosen by evaluators which can be implicit and not clearly stated (Drummond et al., 2015, Sefton et al., 2002, Byford et al, 2003). Within an economic evaluation one criterion is explicitly defined and applied which “may be useful in deciding among different uses for scarce resources” (Drummond et al., 2015:4). These two key characteristics allow the economic evaluation to conduct the fair comparison of two (or more) alternative interventions.

5.3 Information requirements for economic evaluation

Prior to undertaking any form of economic evaluation some preliminary considerations must be applied. Byford et al. (2003) refer to these as the ‘basic ingredients’ required to ensure a successful evaluation is created. These considerations are summarised in Table 5.1 below to provide the necessary

context in which to understand and engage with different methodologies used in economic evaluation and which are in Section 5.4.

Table 5.1: Information requirements for Economic Evaluation

Consideration/ Ingredient	Details
Evaluation question	<p>Questions which can be answered with economic evaluations range from how a service/intervention is provided and received, to how the service can impact wider social welfare issues or other aspects of the service users' lives, such as their educational needs (Byford et al., 2003). As Sefton et al. (2002) outline, the majority of economic evaluations are goal-based, with the clear objectives for the interventions stated. As the Consolidated Health Economic Evaluation Reporting Standards (CHEERS) statement highlights, the study question would also benefit from stating the relevance to policy decisions (Husereau et al., 2013). By clarifying the purpose of the evaluation, this would further overcome previous shortcomings of economic evaluations by providing transparency and clarity which is especially relevant to multi-sector funded programmes and allows for decision-makers to best understand and apply any recommendations from the study. Furthermore, it is essential that any evaluation questions are formulated through discussion and the inclusion of key stakeholders thereby allowing full assessment of how numerous agendas can interact and provide meaningful answers to questions raised (Sefton et al., 2002). Perspective can often influence the chosen design.</p>
Comparison group	<p>As already outlined in Sections 5.1 and 5.2 economic evaluations require some comparison between different courses of action as scarcity dictates that not all options can be funded (Haycox, 2009b). As such, comparisons must be made to justify a final decision. Kobelt (2002) states that the most useful comparison is the 'next-best alternative' and in some cases a 'do nothing' option is required. The comparison or control intervention can have significant implications for how effective an intervention appears. In their guidelines on economic evaluation, (NICE, 2016) outline that a comparator chosen is often an intervention that is routinely used and includes those regarded as best practice. The comparison intervention must be carefully selected to provide a true representation of evidence and limit any exaggerated results from ill-fitting choices. The CHEERS checklist stipulates that the choice of the comparator must be fully justified and a full description of the intervention or strategy must be provided (Husereau et al., 2013).</p>
Cost determination	<p>For any intervention in order to determine its costs (relevant to the study perspective), all resource consumption must be calculated. This requires all 'direct costs' (those directly attributable to the treatment/therapy) and 'indirect costs' (resource use changes that occur indirectly related to the treatment/therapy) to be calculated (Walter and Zehetmayr, 2006). This is undertaken by first establishing all inputs, and then establishing the unit cost for each input (Drummond et al., 2015). Transparency when collecting cost data for all the services provided in the intervention ensures that future funding allocation to replicate the intervention can be calculated. (Byford et al., 2003).</p>

Perspective	<p>An economic evaluation is always performed from a particular perspective or viewpoint and therefore the inputs (costs) and outputs (consequences) identified in the economic evaluation may alter depending on who the study is for and what information is sought (Walter and Zehetmayr, 2006). Yet concentrating on only those directly affected and the single perspective of only one benefactor potentially excludes large sectors of society. Ultimately, it does not include the inputs or outputs from elsewhere that could affect the intervention and as Walter and Zehetmayr (2006) outline in their ISPOR guidelines, if multiple perspectives are included in the analysis undertaken, then the results should be presented individually for each perspective. Narrow perspectives may ‘limit’ the usefulness of the evaluation in real world situations where many sectors or agencies may ultimately be indirectly involved. Including all inputs in an evaluation would allow for interested parties to merely select the information relevant to their needs and allow them to see the wider implications of their efforts. However, following the ‘ideal’ whole society approach is arguably not always required and in some cases such a large focus could be seen as detrimental to the study (McDaid et al., 2003). If a broad approach cannot be undertaken then it is imperative that all decisions are explained and the implications of any exclusions are considered. The perspective of the evaluation can significantly impact choices regarding the evaluation questions and the particular outputs measured.</p>
Outcomes	<p>The main preoccupation of most economic evaluations will be with the use of final outcomes, the end outputs of the intervention (either economically orientated or clinical outcomes) . Yet within an economic evaluation there are a number of different ‘types’ of outcomes that can be measured and used to serve other purposes. Process outcomes can provide information about how well received the programme was by participants whereas intermediate outcomes are useful short-term measures of change throughout the programme and provide data about all aspects of the participants throughout the intervention (Drummond et al., 2015). As shown in Section 5.4, whilst most evaluations prefer to try and use generic ‘final outcome’ measurements (such as quality of life scales) to allow for comparisons between interventions, how this is undertaken will vary depending on the analysis methodology chosen. (Byford and Sefton, 2003).</p>
Study design	<p>The majority of economic evaluations are quantitative with the most common being randomised controlled trials (RCTs) that provide rigid, controlled conditions for the intervention thus allowing the calculation of unbiased costs and consequence data (Drummond et al., 2015). Design type is chosen by the providers of the intervention to ensure that it is appropriate for the study’s aims and objectives and thus, when incorporating inputs from multi-sectors or sources , an RCT may not be appropriate or applicable. Such considerations require a more inclusive and flexible study design. This is particularly relevant for population health interventions and is discussed in Section 5.5. In order to collect the effectiveness data, it is necessary for the researcher to ensure that the quality of the data is reliable and can be used to . determine ‘ (for example, the alignment of the contexts of the different studies with the project under review) (Husereau et al., 2013).. Sometimes in order to apply costs to interventions evaluators must use data from previous studies. Whatever the design, it is important that all decisions benefit from careful planning and full consideration.</p>

5.4 Economic evaluation methodologies and their application to population health interventions

“The real purpose of doing economic evaluation is to improve efficiency: the way inputs (money, labour, capital etc.) can be converted into outputs (saving life, health gain, improving quality of life, etc.)” (Miller, 2009:7).

The economist aims to ensure the maximum benefit from the available resources and thus must compare varied interventions. There are different techniques which can be applied to equate the efficiency of interventions. The following sections will outline each of the five techniques of economic evaluation (listed below). It is important to note that whilst methods of cost or input measurement are largely the same across the five techniques, the main differences between the techniques is the way they classify intervention outcomes and that the range applied may differ, according to the perspective (please see Table 5.1) adopted for the evaluation.

- Cost-minimisation analysis (CMA);
- Cost-effectiveness analysis (CEA);
- Cost-utility analysis (CUA);
- Cost-benefit analysis (CBA);
- Cost-consequence analysis (CCA).

5.4.1 Cost-Minimisation Analysis (CMA)

As previously outlined in Section 5.2, economic evaluations focus on identifying the maximum outcome for given resources. One way to achieve this is by meeting “a predetermined objective at least cost” (Haycox, 2009a:1). CMA is the only economic evaluation methodology that does not refer to outcomes, “when the consequences between two interventions are assumed to be the same; therefore, the goal is to identify the intervention with the lowest cost” (Rudmik and Drummond, 2013:1). In recent literature, the importance of CMA has often been dismissed as a valid form of economic evaluation due to its need to describe two (or more) sets of outcomes as ‘similar or identical’ (Briggs and O'Brien, 2001) which is regarded as too simplistic (Rudmik and Drummond, 2013) and un-feasible given the heterogeneous nature of populations. In his review of

cost-minimisation, Haycox (2009a) suggests that it is too easy to dismiss CMA on the premise that identifying two interventions as having ‘clinical equivalence’ is an easy option, claiming instead that proving the ‘clinical equivalence’ of the outcomes of intervention requires extensive rigour. He suggests that if the outcomes of the interventions have been reported and interpreted responsibly then it may be completely possible to correctly identify outcomes as being similar. As such, he concludes that should more research be done on how best to embark on determining ‘clinical equivalence’ then the occurrence of incorrect or misleading use of CMA can be curtailed thus addressing the concerns of Briggs and O'Brien (2001) who deemed the CMA method ‘dead’.

5.4.2 Cost-Effectiveness Analysis (CEA)

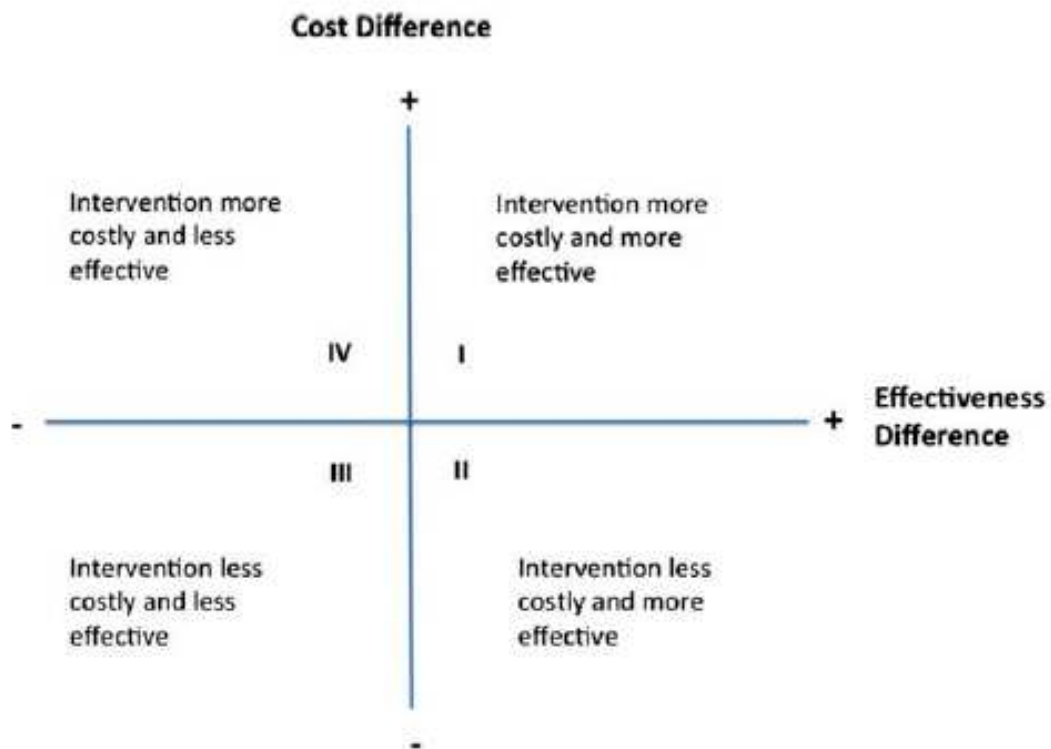
“Cost-effectiveness analysis compares the costs and health effects of an intervention to assess the extent to which it can be regarded as providing value for money. This informs decision-makers who have to determine where to allocate limited healthcare resources” (Phillips, 2009b:1)

CEA looks at both the inputs (costs) and outputs (consequences) of a particular treatment or intervention to evaluate its effectiveness and addresses questions regarding technical efficiency. ‘Effectiveness’ refers to assessing how well the intervention will perform in real world circumstances, thereby differing from the idea of ‘efficacy’, which primarily assesses that the intervention’s ability to produce good outweighs any harm it causes (Drummond et al., 2015). CEA values the benefits of a single, uni-dimensional outcome measure. This means that the evaluation will measure and value the benefits of one chosen outcome to achieve the stated objective of the intervention (Drummond et al., 2015). This ‘single outcome’ is what Byford et al. (2003) refer to as being ‘condition’, ‘disease’ or ‘service’ specific rather than a generic health measure. Outcomes within CEA are typically natural units and are “clinical end points such as, life years gained, symptom-free days, complications avoided, or case diagnosed” (Rudmik and Drummond, 2013:2). CEA compares the benefits of at least two alternative interventions and their input costs to calculate their cost-effectiveness, thus allowing decision makers to determine the best use of resources (Byford et al., 2003, Drummond et al., 2005, Drummond et al., 2015).

Using a single outcome measure allows CEA to be used as a framework for comparing interventions within the same disease area and budget using the same measurement scale. However, this limits the possibility of comparing the CEA to a large number of interventions that perhaps vary in their outcomes and focus. This is known as ‘inter-disease comparisons’ (Rudmik and Drummond, 2013). Thus, “it is impossible to make comparisons across a diverse spectrum of interventions competing for a share of a finite budget” (Byford et al., 2003:12). With CEA, only interventions where outcomes are measured on the same scale can be compared; it cannot show if the same resources are better spent when compared to a completely different intervention where aims and objectives bear no commonalities (Drummond et al., 2015). Furthermore, the researcher must select the outcome deemed more important, potentially ignoring other benefits created. The perspective that is applied to the study and, subsequently, their key objective can provide the necessary guidance and justification for the evaluator’s choice of a primary outcome to measure (Byford et al., 2003).

To compare the inputs and outputs of different interventions CEA uses an ‘incremental cost effectiveness ratio’ (ICER) which is the practice of comparing the incremental cost of an intervention to its incremental benefits (Rudmik and Drummond, 2013). Calculating the ICER is the process of dividing the incremental cost of the new intervention by its incremental effectiveness. The intervention with the smallest ICER is often the most attractive to the policy maker. Unfortunately, the ICER does not show the additional total budgetary impact of implementing the new intervention compared to the existing alternative (Rudmik and Drummond, 2013). In CEAs, the differences between intervention options and their ICERs are often presented on a cost-effectiveness plane (CEP) as shown in Figure 5.1.

Figure 5.1: Cost-effectiveness plane (Rudmik and Drummond, 2013:2)



5.4.3 Cost-utility Analysis (CUA)

“Cost-utility analysis was developed to help decision-makers compare the value of alternative interventions that have very different health benefits, and it facilitates these comparisons without recourse to placing monetary values on different health states [...] specifies what value is attached to specific health states” (McCabe, 2009:1)

As a specific form of CEA, CUA focuses on the quality of the health gain (or loss) that is created by an intervention and allows for the collation of all outcomes into one generic measure (Drummond et al., 2015). It is concerned with both technical efficiency and allocative efficiency (within health care). This methodology aims to address some of the possible shortcomings of CEA as various outcomes can be collated to create a single summary outcome and allows for comparisons across interventions (Drummond et al., 2015). These outcomes are sometimes referred as a ‘common currency’ and facilitate comparisons across interventions (Phillips, 2009a). CUA creates the possibility

for evaluations of the opportunity cost implications of allocating funds for a particular illness/disease over another health problem (Rudmik and Drummond, 2013). However unlike CEA, which measures the health effects of a programme in natural units and presented as incremental cost per incremental unit, CUA examines the cost of a health improvement from the programme and typically measures this using 'utility'. The section below outlines the notion of utility in more depth.

5.4.3.1 Utility

“Welfare theory starts with the premise that individuals are the best judge of their own welfare and that inferences about welfare can be drawn from each individual by observing that individual’s choices among alternative bundles of goods and services” (McIntosh et al., 2012:6).

Utility is a measure of preference, and values can be assigned to different states of health which represent these preferences. The more preferable an outcome, the higher its associated utility level (welfare or benefit to the individual). As Drummond (2015) states, this is commonly achieved through assigning values on a scale ranging from 0.0 to 1.0, with 1.0 representing a perfect health state and 0.0 the worst health state, which is most likely to be classified as death. As outlined by Fujiwara and Campbell (2011), economists look at the impact on utility that a commodity, policy or life event has in order to 'monetise' the benefit or impact it provides. As utility is defined as an individual's wellbeing, it allows the estimation of the monetary value of the good/policy/life-event to be equal to its utility impact.

As Drummond (2015) highlights, how preferences are captured depends on how the question is framed to the participant and whether the task includes a scaling or choice response. It should be noted that 'utility' and 'value' are different types of preferences and the measurement tool used will determine the type of preferences elicited (Drummond et al., 2015). The question may involve certain outcomes where the participant is informed explicitly about the outcome of the choices and no unknowns are included, or it may include uncertainty (the participant must make a choice between alternatives and at least one would

have uncertain outcomes). The measurement tools used may be cardinal, illustrating a respondent's strength of preference for one health-related outcome/output over another or, ordinal, whereby preferences are rank-ordered (Tolley, 2009). As Drummond (2015) summarises, researchers must adopt the method that captures the preferences that they are interested in and must decide whether they need techniques adjusted for risk (utilities) or which are riskless (values). Methods that elicit utilities can be applied for circumstances where problems may need to account for a participant's risk attitude (suitable for both certainty and uncertainty), whilst fixed circumstances can adopt methods for values. However, these fixed circumstances must be definitively defined and thus the preferences elicited may be more restrictive and less generalisable. Common methods for measuring preferences are ranking/rating and visual analogue scales (VAS), time-trade off (TTO), and standard gamble (SG) (Byford et al., 2003). The exact methodology can vary but basic characteristics are described below. It is important to note that these are most commonly carried out with the general population.

Simply put, for rating/ranking scales and VAS, respondents are asked to rank or rate health states in order of preference. Respondents may then be asked to place these on a scale so the distances (intervals) between the health states illustrate the differences between their preferences. The scales have stated end-points yet sometimes bias is reported as a concern since respondents are sometimes inclined to spread the health states along the scale regardless of their severity. Furthermore, some bias has also been reported as respondents are reluctant to place health states towards the outermost limits of the scales (Drummond et al., 2015). A key point however is that such methods are not choice based and therefore do not have the preferred theoretical basis in utility theory desired for use in economic evaluation (Tolley, 2009).

Time-trade off (TTO)

The TTO, as a method to generate utility values was first developed for use in health care by Torrance et al. (1972). Respondents are presented with a scenario of a stated time-period in a certain health state (for example, ten years with chronic illness) and following this limited time-period is death. Respondents are then asked how much time they would sacrifice for a better health state

that is a shorter life but higher quality of life (QoL) (Drummond et al., 2015). This can be described as the point at which the respondent is indifferent between the two options, current health state and shorter life at full health (Martin et al., 2000). This indicates the time-period that the respondent feels is equal to the full time spent in the poorer health state (such as ten years with chronic illness) (Drummond et al., 2015). This indifference point provides the information required to calculate the utility value of the health state under consideration. The utility value of the health state is represented by $U=X/T$ where U =utility, X =time period in full health (1), T =time period in chronic health state.

The Standard Gamble (SG)

The SG is most used when evaluating chronic illness interventions by measuring cardinal preferences and was first developed by von Neumann et al. (1944). Respondents are asked to take a 'gamble' or 'risk' of sorts in which they are presented with two options. Where a patient is suffering from an illness, the respondent is asked whether they want the patient to remain in this state of ill health for a stated length of time, or wish to take a risk or a gamble to return to full health. This risk or gamble is often presented in the form of a treatment. This treatment has two possible outcomes: immediate recovery to full health, living for an additional stated length of time, or failure and the immediate worst implications for the health state in question which could be death or, possibly, the onset of the worst form of the illness (Furlong, 1990). The probability of immediate recovery to full health is varied until the point where, like with the TTO method, the respondent becomes indifferent to the two options (risking the treatment or staying in current health state). However, asking participants to consider probabilities can be cognitively demanding and thus many researchers choose to use visual aids or interactive approaches (Furlong, 1990). The health state utility (U) from the SG is then calculated simply as $U=P$ where P =probability of indifference. For example, a person who is indifferent between staying in the state of chronic dental pain and returning to full health with a 5% probability of death under anaesthetic from the tooth extraction of 5% would have a $U=0.95$ for the health state 'chronic dental pain'.

Generic Health state utility measures

Conducting these forms of direct utility valuation of health states such as the TTO or SG however can be time and resource-consuming, and potentially subject to human error and bias. These methods generate utility values but are not themselves CUA; they are just one component. Consequently, the use of generic utility measures has become increasingly popular in recent history (Rudmik and Drummond, 2013). The creation of measurement scales that have a pre-determined, standardised, multi-attribute health status categorisation system facilitates decision-making and prioritisation by allowing comparisons across disease areas using one common metric, the Quality Adjusted Life Year (QALY). These ‘systems’ combine various health attributes into one composite utility measure thus allowing the intervention’s population or client to self-report their health status. The scores they apply to different health attributes are combined to create one composite utility score. Commonly used generic classification systems are Quality of Well-being (QWB) (Button, 2014), Health Utilities Index (HUI) (Horsman et al.) and EQ-5D (3L and 5L) (Gusi et al., 2010). Each of these methods includes different health attributes, or ‘domains’, to create generic utility measurement scales.

Determining the generic measurement scale that is most applicable depends on the research and the questions it seeks to answer. The researcher must consider the different health domains each includes, the severity of the health states they include, their underlying principles and their scoring techniques. Analysis of the complementarity of different multi-attribute health systems is a highly researched area (Keeley et al., 2016, O'Brien et al., 2003).

5.4.3.2. Quality Adjusted Life Years (QALYs)

“A quality-adjusted life year (QALY) takes into account both the quantity and quality of life generated by healthcare interventions [...] A QALY places a weight on time in different health states.” (Phillips, 2009a:1)

A key feature of CUA is the use of QALYs. Utility values, of the type generated by the TTO, SG or using generic measures such as the EQ-5D can be combined

with survival data to calculate QALYs for health interventions. It is also possible to report negative scores when the respondent regards the health state in question as being worse than death. Utility values or 'Quality-adjusted weights' are multiplied by the length of time spent in each state to produce QALYs. Asking participants to compare outcomes either through ranking them or choosing one over another requires that any 'knock-on' or 'subsequent' effects of their decisions are clearly outlined thereby ensuring that participants can fully appreciate the whole impact of their choice (Drummond et al., 2015).

CUA overcomes some shortcomings of other economic evaluations by providing one common metric that can be applied to a multitude of interventions thereby providing the means for comparisons. It is not restricted to the same or similar clinical areas thus, relative and absolute (i.e. technical and allocative) efficiency can be determined. The key benefit of CUA lies in its ability to facilitate comparisons across disease/care as well as considering both the quantity and quality of life saved thus incorporating health-related QoL into the evaluation considerations (Drummond et al., 2015). This is particularly useful when dealing with the allocation of limited resources. However, it does not take equity into consideration and is only applicable to health care costs and benefits.

5.4.4 Cost-benefit Analysis (CBA)

CBA differs from other economic evaluation frameworks as the outcomes are valued in the same entity in which the costs (inputs) are calculated, commonly monetary units (McIntosh, 2010). Allocative efficiency is the main concern of CBA, as the methodology can be used to evaluate the absolute worth of a health care intervention. CBA gives the researcher or policy maker the means to conduct a direct comparison of the increasing costs with the outputs accrued (McIntosh, 2011b, Drummond et al., 2005, Byford and Sefton, 2003, Drummond et al., 2015) thereby ensuring that the net benefits (benefits - costs = net benefits) of an economic evaluation can be compared. Similar to CUAs, it provides a common currency for the comparative assessment of numerous interventions. However, in contrast to the other economic evaluations, the use of monetary units as output measurements can allow for comparisons to be drawn between the return on investment in health to returns from elsewhere in

the economy (McIntosh et al., 2011). Undertaking a CBA can be complex as health gains of an intervention must be valued in monetary units thus illustrating “whether a particular procedure or programme offers an overall net gain to society in the sense that its total benefits exceed its total costs” (Robinson, 1993:924).

5.4.4.1 Measuring outcomes in monetary terms

In applied health economics studies, the most commonly used methods to value outcomes in monetary terms are contingent valuation (CV) studies. The application of the CV method to assign values to benefits for goods without clearly defined demand curves can be traced back to 1958 and there has been a steady growth in the number of published papers using the CV method within healthcare (McIntosh et al., 2010).

5.4.4.2 Contingent Valuation (CV) methods for valuing benefits

Unlike revealed preference (RP) data which shows an individual’s real-life (actual) actions and consumption of existing market goods, services or commodities, Contingent Valuation (CV) techniques typically adopt stated preference (SP) approaches and allow researchers to estimate the value of commodities that currently do not exist within the market (Drummond et al., 2015). It is worthwhile to note that the previously described VAS, ranking/rating, SG and TTO methods are forms of CV methodology yet they are used throughout CUA to value utilities not monetary outcomes. SP could be viewed as an attempt to reconstruct or replace missing markets through the use of hypothetical scenarios in order to establish demand and value for non-marketed goods. In these circumstances there are typically no RP data to refer to and researchers ask respondents to state what they *would* do when presented with a hypothetical market scenario.

5.4.4.3 Willingness to Pay (WTP)

As Frew (2011) states, CV is a SP approach which, through presenting individuals with hypothetical scenarios of the loss or gain of a public programme/intervention, directly estimates welfare gains or losses. Most commonly, for the purposes of CBA, respondents are presented with a

specifically constructed survey to determine either the maximum amount of money that one would be willing to pay (WTP) for a good/service or, the minimum compensation amount they would be willing to accept (WTA) for the loss of the good/service (Fujiwara and Campbell, 2011). This is then taken as a measure of their strength of preference for the specified good. An individual's stated WTP or WTA amount "is taken as a measure of the individual's perceived value of the programme (i.e. the demand) which is then aggregated across all individuals" (Frew, 2011:97).

Valuations derived from CV studies are reliant on the suitability of the study's design as individuals' SP are solely based on the information and hypothetical scenario presented to them. Reviewers of the method, have emphasised that the flexibility and opportunities CV studies offer researchers, can easily be undermined if poorly designed, or cognitively burdensome, presenting respondents with unrealistic scenarios upon which to base their declarations of WTP/WTA (Frew, 2011, Drummond et al., 2005, Drummond et al., 2015).

The scenario description is the pivotal initial stage of a CV survey. This sets the 'scene' and context in which the respondent makes their decision. Participants read this prior to completing the CV task. It has to be realistic so that the respondent understands this hypothetical market they are being asked to imagine to be real, allowing their responses to represent what their actions would be if it were in fact real (Frew, 2011). This is called content validity.

How to present the valuation question can vary amongst CV surveys yet the most commonly used are open-ended, a bidding game, a payment card or a dichotomous choice. An open-ended design directly asks a respondent what their maximum WTP for a good/service would be. It is considered the simplest format of CV (Frew, 2011). Bidding games resemble an auction format where the respondent is presented with an initial discrete amount by the interviewer and asked whether they would be willing to pay this amount. Dependent on their response (yes/no), a bargaining process is started with a series subsequent of higher (if they initial said yes) or lower (if rejected the first amount) bids. Once a final WTP bid amount has been achieved, an open-ended WTP question is also included (Frew, 2011, Fujiwara and Campbell 2011, Drummond et al., 2015). The payment card/scale method presents participants with a list of monetary

amounts for them to tick (✓) the amount they would pay, circling their maximum WTP and cross (x) amounts they reject. Lastly, a dichotomous (close-ended) WTP question is a binary 'yes/no' format where respondents are offered a choice of having the good/service but for a specified 'bid' amount (Fujiwara and Campbell, 2011). This final design is considered to be the least stressful and burdensome for the respondent as they are presented with the 'price' to consider (Mitchell and Carson, 1989).

There have been developments with these CV survey designs to allow further interpretation of the WTP values elicited such as the 'marginal approach'. This is a two-stage design. First, respondents are asked what service/good they prefer. Then they are asked the maximum WTP they would pay for their most preferred option compared to their least preferable option (Frew, 2011). This is a relative WTP rather than an absolute WTP value. As illustrated here, CV methods provide researchers with a monetary value for the gain or loss of a good/service. This is a move away from the popular approach in healthcare decision-making of valuing of benefits in terms of health gains from the intervention (Drummond et al., 2015). Commonly, techniques such as rating scales, standard gamble and time trade-off (TTO), requiring respondents to state their preference of a health state over another have been used. Yet, with the increasing rise of multi-sectoral PHIs and the challenge of applying economic evaluation techniques to them, as will be discussed shortly, there is possibly a role for methods such as CV to value costs and effects that extend beyond a healthcare budget.

WTP methodology is based on the premise that the maximum amount of money an individual is willing to pay for a resource represents the monetary value they regard that resource to be worth and how much they are prepared to spend in order to gain the resource and avoid illness (Robinson, 1993, McIntosh et al., 1999, Byford et al., 2003). As such, it is possible to apply WTP methodology when decision makers try to incorporate the public's preference into decisions around fixed budgets. One key advantage of WTP identified by McIntosh et al. (1999), in their review of CBA, is the possibility that, when considering the 'worth' of a health service, the respondent may be more able to "take account of all the attributes of the service of importance to them, not just health gains" (McIntosh et al., 1999:361) thereby incorporating the individual's implicit

preferences (Frew, 2011). However, one key criticism of WTP is the need to assign “a monetary value to things which are considered by many to be incommensurate with monetary valuation” (McIntosh et al., 1999:361). Furthermore, there has been discussion surrounding respondent’s ‘ability to pay’ altering their WTP values. However, research has shown that it is possible to adjust for different income groups should the researchers deem it necessary (Drummond et al., 2015).

Eliciting WTP using Conjoint Analysis (CA) methods

Conjoint Analysis (CA) is a method developed in psychology and used frequently in marketing transport, environmental and health economics (Louviere et al 2000). CA is a technique used to determine how people value different attributes or ‘dimensions’ that make up an individual product or service. Within CA, the respondent indicates their preference in a more indirect, and potentially, more sensitive manner (Drummond et al., 2015, McIntosh et al., 1999).

CA, also known as choice modelling (CM) was originally developed in mathematical psychology and gained momentum within other fields such as transport and environmental economics. Ryan and Farrar (2000) documented the increasing appeal and popularity CA has gained in health economics, being “applied successfully in several areas, including eliciting patients’ and the community’s preferences in the delivery of health services; establishing consultants’ preferences in priority setting; developing outcome measures; determining optimal treatments for patients; evaluating alternatives within randomised controlled trials; and establishing patients’ preferences in the doctor-patient relationship” (2000:1530). Using CA a researcher can capture the impact of attributes on the benefit derived from a good/service, estimate utilities and if a payment vehicle (i.e. cost) is included as an attribute, respondents WTP (Ryan et al., 1998). Ryan and Farrar (2000) outline the main purposes of the technique as:

- Illustrating the trade-offs people make between attributes thus, highlighting the best way to deliver a good/service;

- Producing overall benefit scores that can be used to rank services against one another (i.e. can prioritise them);
- Identify the relative importance of a good's attributes, thus it is possible to identify the individual impact on the overall benefit;
- Determining the importance of an attribute for respondents.

The main CA techniques are discrete choice experiments (DCEs), contingent ranking, contingent rating and paired comparisons. A typical CA exercise is constructed through five key stages which are briefly outlined in Table 5.2.

Table 5.2 Key stages of a choice modelling exercise

CA stage	Description
Identifying attributes	Key methods used for identifying relevant attributes are literature reviews, focus groups, expert consultations and face-to-face interviews (Hanley et al., 2001). Should a policy question be addressed, attributes may be predefined.
Assignment of levels	Cardinal, ordinal or categorical levels can be used to describe the attributes (Ryan and Ferrar, 2000). They must be realistic and plausible to ensure respondents understand the exercise being asked of them.
Choice of scenarios/ experimental design	Using statistical design theory to combine the attribute levels into a series of scenarios (choice-sets). Commonly complete factorial designs or fractional factorial designs are used. Complete factorial designs "allow the estimation of the full effects of the attributes upon choices: that includes the effects of each of the individual attributes presented (main effects) and the extent to which behaviour is connected with variations in the combination of different attributes offered (interactions" (Hanley et al., 2001:437). For example, 24 scenarios are created from four attribute design where three have two levels and one has three levels ($3^1 \times 2^3$). This can be cognitively burdensome thus a fractional factorial design is applied to reduce the number of scenarios.
Preferences	To establish preferences, individuals are asked to either; rank the scenarios in order of their preference, rate each scenario in turn (usually using a likert scale) or choose a preferred alternative from a set of two scenarios and also indicate the strength of the preference using a scale (known as the pairwise technique). Lastly, the most popular technique is the use of choice experiments where respondents are presented with a series of choices and for each must state their preference. These are known as choice experiments or discrete choice experiments (DCEs) (Ryan and Ferrar, 2000, Hanley et al., 2001).

Data analysis	Regression analyses are used to analyse responses. Commonly maximum estimation procedures (such as probit, logit, ordered logit, conditional logit models). In these models, the variables that do not vary across the alternatives interact with choice-specific attributes (Ryan and Farrar, 2000, Hanley et al., 2001).
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In recent literature there has been a clear shift and preference among health economists for DCEs away from the more traditional CM techniques such as contingent ranking, contingent rating and paired comparisons. Louviere et al. (2010) demonstrate that this preferential treatment is due to substantial differences between the theoretical foundations and origins of these SP techniques which has led to a general consensus that traditional CM methods are in fact “inappropriate for economics evaluation and should be used with caution in economic applications” (2010:58).

Originating in psychology, traditional forms of CA are primarily used to “mathematically represent the behaviour of rankings observed as an outcome of systematic, factorial manipulation (i.e. known as “factorial designs”) of independent factors (also known as “attributes”)” (Louviere et al., 2010:58). It assumes that a person’s ranking of a factorial design indicates their preferences as though they have integrated the attribute levels through adding or multiplying marginal preferences for each level thus ranking all the scenarios/choice-sets. This theory is mathematical and, rather than capturing the behaviour of human preferences, it looks at the behaviour of number systems. The main limitation of CM theory for CA is the assumption that underlying an individual’s SP (through ranking or rating) of a scenario is an “algebraic process to combine preferences for each level of each attribute into a preference for holistic combinations of attribute levels” (Louviere, Flynn et al. 2010:61). Moving away from CM theory, researchers have grown to more commonly use discrete choices experiments (DCEs) which draw on the behaviour theory known as random utility theory (RUT).

RUT was first introduced by the psychologist Thurstone (1927) but more recently spearheaded by McFadden (1974). RUT suggests that there is a latent utility scale in a person’s head that researchers are unable to observe (Louviere, et al., 2010). RUT is consistent with traditional economic maximising behaviour which

allows it to fit a regression model/framework. The underlying assumption of RUT is that individuals will choose the scenario that they feel will give them the maximum utility.

Moreover, the RUT allows for the inclusion of respondent socio-economic characteristics into the model and can be used as an indication of their choice decisions. The multinomial logistic regression model (MNL) and its assumption of independent observations is often violated by DCE surveys where researchers seek to analysis multiple choices from the same respondent. These observations are often correlated as a respondent may have preference for a particular attribute and therefore, are basing their preference for scenarios on that attribute's level over other less important (in their opinion) attributes (Hwa 2006). Prioritising an attribute and the resulting correlation across alternatives utility is called 'random taste variation'. To relax this assumption, a Mixed Logit (MXL) model is often applied to DCE analysis (Section 6.9).

In summary, the techniques of DCEs and WTP are commonly used to generate WTP values for ultimate use in the CBA framework. The broader scope of CBA (in comparison to CEA and CUA) allows researchers to calculate the cost and benefit of a programme and convert this to a monetary unit, thus presenting decision makers with a means of comparison for sectors beyond health care. As Reed Johnson and Adamowicz (2011) highlight, this application of CBA has been frequently used in other fields such as environmental economics to demonstrate the value of programmes and interventions. The use of WTP allows the CBA framework to take into consideration a broad range of effects and quantify them, addressing allocative efficiency concerns and questions. Full CBAs however are relatively rare in health economics with CEA and CUA dominating economic evaluation publications (McDaid and Needle, 2009).

5.4.5 Cost-Consequence Analysis (CCA)

Cost-Consequence Analysis (CCA) is particularly relevant for interventions that have a number of diverse objectives as it allows researchers to capture all the outcomes/outputs of the intervention without having to make judgement decisions of their comparative importance (Drummond et al., 2015). CCA is essentially a framework which collates the various outcomes and presents them

with the costs of the intervention in the most appropriate units of measurement, but CCA does not combine inputs (resources) with outputs (consequences). A balance sheet is produced. Therefore, decision makers must decide how to rate the importance of the various outcomes thereby incorporating a new decision criterion and possibly introducing bias (Byford et al., 2003). This exemplifies how perspective and evaluation questions can influence the evaluation process. CCA is often used to evaluate complex interventions where outcomes are not easily summarised into a single measure (Byford et al., 2003); thus, a CEA could potentially exclude significant outcomes. Indeed, in their research on the application of economic evaluation to public health interventions Trueman and Anokye (2013) concluded that “prevailing methods of economic evaluation, such as CUA, which have been developed largely for the assessment of medical technologies may have limited applicability to public health interventions. CCA provides greater transparency when considering costs and consequences that might be accrued by a wide range of stakeholders in the public and private sectors and might also usefully provide a means of monitoring the short-term progress of public health programmes” (2012:7). It allows policy maker to decide on the appropriate weightings associated with each of the components listed. Furthermore, in 2008, NICE advocated the need for public health costs to be measured with a broader public health perspective and has advocated that CCA may be more appropriate over other methods such as CUA (NICE, 2012b).

Economic evaluations enable researchers to compare alternative intervention methods and provide potential policy solutions during times when demand far exceeds resources. However, deciding the most suitable form of evaluation technique is subject to numerous factors that influence their design. Of particular relevance is the chosen outcome measure and subsequent recommendations. Whilst previously these factors have been briefly discussed, many elements of evaluations are far more complex and intervention-specific. In Chapter 1 urban regeneration as a form of PHI was outlined; however, it is important to understand how the previously identified CE elements within urban regeneration can be measured and valued using an economic evaluation framework. The following section aims to draw upon previous economic evaluations of urban regeneration, and the wider literature on PHIs, in order to assist the identification of a suitable methodology for valuing CE. In doing so,

this thesis can address the fourth research question of the thesis, namely: Can economic evaluation be used to measure and value CE as an outcome of urban regeneration programmes?

5.5 Economic Evaluation of Population Health Interventions (PHIs)

Following the introduction and outlining of economic evaluation methodologies in this chapter, the application of economic evaluations to PHIs will now be explored. Firstly this section will explore what is meant by a PHI, then revisit the notion of urban regeneration programmes as a form of PHI (an concept first introduced in Chapter 1). This will be followed an exploration of issues related to the complexity of PHIs and the challenges associated with conducting economic evaluations of PHIs.

PHIs tend to be complex and context specific interventions which are used throughout areas of social policy (such as transport, education or housing), public health and health services and have important health benefits (Rychetnik et al., 2002, MRC, 2008, Edwards et al., 2013, Fenwick et al., 2013). PHIs aim to “promote or protect health or prevent ill health in communities or populations. They are distinguished from clinical interventions, which are intended to prevent or treat illness in individuals” (Rychetnik et al., 2001:119).

“The body of economic evidence relating to public health interventions is small in comparison to that related to health care. There are practical difficulties but they should be capable of being overcome to produce high quality, convincing evaluations of public health interventions” (Wanless, 2004:5).

As Wanless (2004) acknowledged, economic evaluations have had proven success in providing evidence and recommendations for policy makers’ consideration when making key decision regarding the allocation of resources and funding within health care (choosing between alternative treatment intervention options). Such work has established economic evaluations as an integral part of policy decision-making in the recent past (Wanless, 2004). Yet, as Drummond et

al. (2006) emphasises, economic evaluation techniques “have been applied mainly to more narrowly defined ‘clinical’ interventions, such as drugs, devices or medical procedures” (Drummond et al., 2006:7). The development of economic evaluation methodologies alongside randomised controlled trials (RCTs) for instance is well documented in terms of design, reporting and presentation (Drummond et al., 2005, Drummond et al., 2006, Husereau et al., 2013). These clinical interventions tend to be more ‘downstream interventions’, tackling adverse health behaviours and aimed at afflicted individuals (Kelly et al., 2005). Conversely, PHIs are regarded as ‘upstream interventions’ which strive to influence the circumstances that create the adverse health behaviours in question (such as wider socio-economic conditions). Upstream PHIs have become an increasingly common approach in the UK for tackling rising inequalities in health (Williams et al., 2008, Maller et al., 2006, McIntosh et al., 2012).

PHIs’ multifaceted approach is less likely to have the advantage of study designs in such controlled and experimental environments as is the case with RCTs. Furthermore, it may not be possible to simply adopt the traditional economic evaluation technique of looking at the costs and final outcomes of the intervention with little regard of the processes or variables experienced along the way (Kelly et al., 2005). However there are examples of PHIs evaluated within RCT settings as discussed below (Edwards et al., 2011).

Arguably some headway has been made in the move away from a reliance on RCT designs for PHIs to the use of ‘natural experiments’, which allow researchers to evaluate an ‘event’ (interventions or policies that have not been developed purely for research) in circumstances which are uncontrolled and thus, through the use of a quasi-experimental design, allow researchers to ‘naturally’ examine the variation exhibited through exposure to the event to measure its impact (success) (MRC, 2008). They are of particular use when “there is scientific uncertainty about the size or nature of the effects of the intervention but for practical, political or ethical reasons the intervention cannot be introduced as a true experiment” (MRC, 2011:4). Yet, as Frew et al. (2014) highlight in their use of a natural experiment framework to measure the cost-effectiveness of a physical activity programme (which they stipulate is a

form of PHI), the lack of control over the design ensures that “natural experiments will never unequivocally determine causation” (Frew et al., 2014:5), which is a limitation when trying to determine effectiveness of inputs (costs) of a PHI. That is, as a form of complex observational study, the researcher does not have control over the social conditions of the experiment and the assignment of subjects to ‘treatment’ and ‘control’ groups is not randomised with external factors potentially influencing the selection process. The lack of randomisation threatens internal validity and as Meyer (1995) highlights, investigation into the source of variation is required to choose relevant methodology to reduce selection bias. Furthermore, the parameters of populations (social or geographical) can be hard to firmly define and can change overtime. As such, whilst natural experiments can prove to be pragmatic and informative, providing ‘real world relevance, it can be difficult to draw casual influences with absolute certainty (Scottish Government, 2009, Craig et al., 2012, Baltussen et al., 1999).

As Edwards et al. (2013) identified in their systematic review of guidance for economic evaluations of PHI, in order for an evaluation of this type of intervention to be successful, the researcher must be able to capture much broader outcomes than those covered by health measures such as the QALY. With health gains not being purely attributable to health strategies within PHIs, any economic evaluations conducted must look ‘beyond’ solely health gains to capture interim surrogate outcomes leading to health gains. In this thesis, this interim surrogate outcome which can be linked to health gains is CE. Whilst monitoring and including the entire process of the intervention allows the economic evaluation to highlight the cost of an intervention’s success or at what cost it has failed (Kelly et al., 2005), there is agreement within the literature that there are some key methodological challenges that need to be addressed when attempting a PHI economic evaluation. The following section outlines the notion of PHIs as a complex intervention and is followed by Section 5.6 outlining the challenges of conducting economic evaluations of PHI’s.

5.5.1 PHIs as complex interventions

In order to ensure the best possible service is provided in public health practice and social policy areas which have proven health consequences (such as

housing), complex interventions are applied (MRC, 2008). As such, the methodology of complex interventions and means by which they can achieve health gains are often drawn from a diverse number of components (inputs) (Council, 2008). Therefore, evaluations of complex interventions are subject to extensive variation possibilities.

Commonly, complex interventions are defined as being “built up from a number of components, which may act both independently and inter-dependently” (MRC, 2000:2). As the guidance and framework from the Medical Research Council (MRC) emphasises, these active components of the interventions are often difficult to define and thus determining which (component) is more important is a somewhat confusing and complicated process (MRC, 2000). As Petticrew (2011) states, the complexity here resides in the overwhelming possibility of options that arise due to different variables such as:

- The number of interacting components;
- The different behaviours and priorities of intervention recipients and providers;
- The number of different groups and levels of hierarchy targeted by the intervention.

These variables are particularly challenging (and time-intensive) for designing, developing, completing and evaluating complex interventions (Shiell et al., 2008, Campbell et al., 2000). PHIs are viewed as a complex intervention due to their complexity as a result of multi-sectoral funding partnerships with each sector having its own desired outcomes and goals. Their focus is on adopting a preventative approach to the promotion of healthy behaviours, and addressing wider inequalities to reduce the incidence of health such as disease, mental and physical health conditions, and disability. By seeking to improve the health and wellbeing of a wider population (rather than a narrowly defined target population), they must account for a number of contextual characteristics such as “factors in the political and organisational environment and socioeconomic or demographic features of the population” (Rychetnik et al., 2002:119). Given the context of this thesis, the following section outlines the notion of urban regeneration as a PHI.

5.5.2 Urban Regeneration: A PHI

PHIs are “complex packages of ‘components’ such as employment, education, income, crime and housing interventions” with the aim of improving participants overall quality of life (Petticrew, 2011). The impact of a person’s social, economic and living circumstances on their health and wellbeing has been well-documented, with those living in more deprived surroundings being more susceptible to poorer health (Macintyre and Ellaway, 2000, Stafford and Marmot, 2003). Indeed, in their review of how upstream interventions can address social determinants of health, Williams et al. (2008) concluded that rather than existing in a ‘vacuum’, health is intrinsically linked with “the living conditions in homes and communities, as well as, the economic resources available to the household” (Williams et al., 2008:11). Thus, ability for urban regeneration interventions to impact on numerous aspects of residents’ lives, with a specific emphasis on health and wellbeing has encouraged the perspective of urban regeneration programmes as a form of PHI (MacGregor, 2010, Bond et al., 2013).

“Urban design and planning are essential elements in how we navigate the social world. This is because urban environments typically constructed for social and cultural reasons, can create health inequalities within the urban landscape [...] urban regeneration is an important public health intervention and that by changing the urban physical, social and economic environment this can facilitate health development for disadvantaged communities” (MacGregor, 2010:38).

PHIs are well situated to being able to tackle numerous aspects of health and well-being (physical and mental) within the target population group by addressing the wider environmental, social and economic issues (McIntosh et al., 2012, Edwards et al., 2013). The form of interventions, their aim and means by which they can achieve health gains can vary (Edwards et al., 2013). In their review, Drummond et al. (2006) state that “public health interventions comprise a wide range from screening and immunisations through to the promotion of healthy eating, physical activity and well-being” (2006:12).

“Research conducted from a complex perspective might consider how and whether these components work individually and together. It might consider the synergies between them, phase changes and feedback loops, and the interactions between multiple health and non-health outcomes, as well as the process by which these components bring about change in communities” (Petticrew, 2011:397).

This complexity has, as Bond et al. (2013) highlight, meant a marked paucity in evidencing health impacts of urban regeneration programmes (Atkinson et al., 2006, Thomson et al., 2009, Jacobs et al., 2010). Previous studies such as examples from Jacobs et al. (2010), Ellaway et al. (2012) and Ludwig et al. (2012) have demonstrated that changes in surrounding deprivation can lead to positive health outcomes which in turn can inform future agendas, especially when researchers have access to longitudinal data and are able to evaluate outcomes over a longer time span. Indeed, researchers such as Huxley et al. (2004) have suggested that longer follow-up periods provide opportunities for the full effect of an urban regeneration initiative to be realised and captured. Unlike with other forms of interventions (and their accompanying evaluations), researchers are not always involved in the planning or delivery of urban regeneration programmes (Craig, 2011). Moreover, additional challenges such as “what the intervention comprises, the nature of the recipients, the difficulty of attribution of effect [...] specific challenges in studying areas of deprivation” (Bond et al., 2013: 946) add further complexities in the undertaking and economic evaluation of these complex interventions and require special consideration, with researchers adapting and tailoring their approaches to suit the programmes and tease out their health and social outcomes (Thomson et al., 2004, Bond et al., 2013). As Ludwig et al. (2012) highlight, previous studies exploring changes to neighbourhoods have not always included broader wellbeing metrics such as happiness and thus, may have failed to capture the full impact of an intervention.

“The apparent absence of evidence on health impacts cannot however be inferred to be proof of an absence of impacts - it is simply that we do not know about them” (Thomson et al., 2006:22).

Urban regeneration programmes are rarely short-term interventions and can outlive evaluations, and their multi-sector nature means they have multiple funders with changing priorities. Yet, failure to acknowledge and tackle such difficulties and complexities within evaluations could lead to policy decisions which are ineffective, costly or result in unwanted impacts on target populations (Bond et al., 2013).

Such challenges have been increasingly recognised within the emerging field of public health economics as a call for the need for economic evaluations to guide future optimisation of resource allocation within all sectors impacting on health and broader aspects of wellbeing (NICE, 2008). In advance of outlining a proposed methodology for measuring and valuing CE elements as an outcome (and intermediate outcome linked to health gains) for inclusion in an economic evaluation framework as outlined in Chapters 2 to 4, the following section firstly examines the challenges of conducting economic evaluations of complex PHIs.

5.6 Challenges when conducting economic evaluation of PHIs

The partnership of multiple government sectors such as housing, health and education to produce a PHI brings with it a number of methodological challenges for their economic evaluation as health economists attempt to capture all costs and outcomes across all aspects of these ‘up-stream’ interventions (McIntosh et al., 2012). Such multi-components can cause ‘attribution’ confusion when trying to determine which factor has helped create a particular outcome as many effects/outcomes are a result of the cumulative interaction of components (MRC, 2008, Drummond et al., 2006, Petticrew, 2011). The lack of standardisation and degrees of flexibility of these interventions allows them to take different forms in different contexts and the conceptualisation of them within the wider system as researchers can document how surroundings impact the intervention (Hawe et al., 2004, MRC, 2008). Drummond et al. (2006) and

the subsequent publication by Weatherly et al. (2009), identified four key challenges for economic evaluation of PHIs:

1. the attribution of outcomes;
2. measuring and valuing outcomes;
3. measuring and valuing intersectoral costs and consequences;
4. including equity considerations.

These same challenges were further identified as common challenges across the board in the economic evaluation of PHIs in a multidisciplinary workshop held in Glasgow 2012 to discuss the conceptual and practical challenges facing economic evaluations of PHIs (McIntosh et al., 2012). The following section explores these challenges in more depth.

5.6.1 Attribution of outcomes

“Attribution refers to both isolating and estimating accurately the particular contribution of an intervention and ensuring that causality runs from the intervention to the outcome” (Leeuw and Vassen, 2009:21).

Attribution of outcomes asks whether it is possible to ‘attribute’ changes shown in an outcome to being the result of a specific intervention (Weatherly et al., (2009). Unlike other, more structured, health interventions, PHIs do not readily always have a clear cut-off point for the measurement of intervention outcomes as it is anticipated that impacts will ‘manifest’ overtime and potentially affect future generations (McIntosh et al., 2012). As Weatherly et al. (2009) explain, these long-term outcomes need to be a key consideration when designing a study intervention. Indeed, there exists clear guidance from NICE regarding the use of RCTS for comparison of different medical treatments due to their rigid and unbiased approach (Byford and Sefton, 2003). Yet, when dealing with complex interventions such as PHIs which must be applicable to a wider target group, real world situations commonly “are not standardised services delivered to ‘passive’ participants and many of the outcomes are not easily quantifiable” (Byford and Sefton, 2003:105), RCTs are not always applicable. PHIs are interventions that are trying to create and monitor a ‘holistic’ impact on circumstances influencing numerous aspects of an individual’s life, something that is not always suited to

an RCT that “treats the intervention as if it were a single homogenous service” (Byford and Sefton, 2003:105). Adopting quasi-experimental designs such as the aforementioned natural experiments, does allow researchers to capture outcomes, yet the problem of causality and attribution is not fully ameliorated due to a lack of a formal control group. Furthermore, PHIs often happen ‘in-situ’ which raises ethical considerations from their inability to ensure randomisation. Randomisation is essential in RCTs; however, it is not always possible in complex interventions where real life circumstances can take precedence (Byford and Sefton, 2003). Weatherly et al. (2009) argue that there needs to be more research on how best to obtain unbiased estimates of intervention effects. Therefore, without structured parameters, fully controlled conditions, or unbiased sample selection, capturing the effect/impact of an intervention on an outcome without ‘contamination’ from external (non-intervention) factors is problematic and may affect the ability for the cost-effectiveness of the intervention to be determined.

5.6.2 Measuring and valuing outcomes

The second challenge facing economic evaluations of PHIs is how best to measure and value the outcomes (Byford and Sefton, 2003, Weatherly et al., 2009, Drummond et al., 2006). PHIs produce outcomes occurring far into the future meaning any economic evaluations will need to incorporate estimations and projections of these effects, sometimes beyond the original scope of the intervention (Drummond et al., 2006, Weatherly et al., 2009). However, the often broad-ranging nature of PHIs outcomes presents an additional challenge. In their review Edwards et al. (2013) identify that a key theme of current methodological guidance on economic evaluations of PHIs, “complex public health interventions, by their very nature, deal with wider social and environmental costs and benefits than do clinical interventions and therefore there is a need to consider a much broader range of outcomes than on QALYs alone” (2013:5). As previously introduced in Section 5.6.1, such outcomes can be outwith the remit of existing, established measures like QALYs. Furthermore, economic evaluation methods often need to incorporate costs and effects from public and private sectors, as well as, accounting for any ‘knock-on’ impacts the intervention may produce (McIntosh et al., 2012). In short, the economic evaluation must look beyond the direct, short-term impacts of the intervention.

The choice of outcome measure is key and dependent on the research being undertaken (Lorgelly et al., 2010). As shown by McDaid and Needle (2009), over 50% of economic evaluations of interventions report outcomes in CEA with natural units. However, this efficiency evaluation framework can “only inform decisions within individual disease or intervention areas” (Lorgelly et al., 2010:2277). This is not always appropriate for measurement within PHIs.

One criticism of the current delivery and evaluation of healthcare is the use of aggregated individual outcome values (Wiseman, 2014). Namely, the use of health economic methodology that captures individuals utilities and thus, “value is placed predominantly on the outcomes of health services that serve that individual” (Wiseman 2014:252). Urban regeneration programmes attempt to invest in whole neighbourhoods and communities and current policy has placed importance on ensuring engagement and empowerment of residents is central to its delivery (Government 2013; Findlay 2010). More specifically, CE in this context is defined as giving residents control over issues that are of importance to them and the opportunity to shape changes in their immediate environment (Lawson and Kearns, 2006). This sense of empowerment has been linked to improvements in mental wellbeing and the effectiveness of urban regeneration policies and programmes. This is discussed in detail in Chapters 2-4 of this thesis. Within the field of health economics, as PHIs become more commonplace and the call for their economic evaluations strengthens, determining how to capture the worth and value of non-health gains of the interventions such as CE requires more consideration. One theoretical approach to the issues of outcome measurement and valuation which suits this context is the use of the capability approach (Sen, 1985, Sen, 1997, Lorgelly et al., 2008, Lorgelly et al., 2010).

5.6.2.1 Capability as an outcome

“The capability approach suggests that wellbeing should be measured not according to what individuals actually do (functionings) but what they can do (capabilities)” (Lorgelly et al., 2008:3).

Capabilities go beyond an individual’s current functioning, what they are able to do, to create combinations of functioning that an individual feels they could

achieve and allows them to choose between these collections of combinations (Nussbaum and Sen, 1993, Lorgelly et al., 2008). Sen did not specify what these ‘capabilities’ could be. However, Nussbaum has suggested a list of ten items considered central human capabilities (Nussbaum, 2000). These are: life, bodily health, bodily integrity, senses imagination and thought, emotions, practical reason, affiliation, other species, and play and control over one’s environment. By going beyond pure health outcomes and incorporating non-health outcomes, the capability approach has a wider focus. However, a key limitation to this theoretical approach is the lack of current guidance on how to estimate and value the capabilities without assuming the same weight should be given to each question within an instrument, no matter the capability to which it refers. There is no indication of participants preferences for different capabilities (Lorgelly et al., 2008). Lorgelly et al. (2008) explored the possibility of developing a generic instrument that could measure outcomes within a capabilities context to be drawn on in future evaluation of PHIs. This capability approach has a wider focus than evaluating just health gains and thus has “a richer evaluative space with a focus of equity” (Lorgelly et al., 2008:4), yet it was also shown to be highly correlated to other generic measures of health and wellbeing; EQ-5D and global QoL. Despite the approach still being under development and consideration, it emphasises the need to move away from the creation of composite index measures which assume equal weighting across different domains/capabilities affecting an individuals’ quality of life and wellbeing. Instead, to ensure all outcomes of PHIs are considered and valued, they suggest that the capability approach could be further developed into an index of capability through the use of preference-based techniques to consider the relative importance of the different capabilities. As such, the capability approach not only shows an alternative outcome measure for non-direct health within PHI evaluations, but also implies that CBA SP methods may be applicable to the development of a complex outcome measure once initial domains have been identified (Lorgelly et al., 2008).

5.6.3 Intersectoral costs and consequences

The multi-sector composition of PHIs poses a third challenge to researchers. The challenge relates to the identification, measurement and valuation of such intersectoral costs and consequences. That is, just as the outcomes and impacts

from PHIs can be ‘wide-ranging’, so are the resource impacts both in terms of the costs incurred delivering the PHI and the cost impacts/cost savings arising as a consequence. As Drummond et al. (2006) state, many health interventions or policies such as a ban on smoking in drinking and eating establishments will lead to spillover effects/impacts felt by other sectors (such as the catering trade). Likewise, policies which originate outside the health sector may lead to health impacts. The inclusion of intersectoral impacts allows PHIs social values to be determined and can aid future designing and funding of interventions. However, currently the ability to fully capture these impacts is limited. As Weatherly et al. (2009) outline, through the inclusion of these wider impacts, a true representation of the effectiveness of the intervention can be determined. Yet, a generic measure for all outcomes` that is applicable across different sectors may not always be practical. Byford and Sefton (2003) and Weatherly et al. (2009) both highlight the need for future research to be conducted on whether economic evaluations of PHIs should adopt a societal perspective and consider the impact and spill-over effects of the intervention.

5.6.4 Equity considerations in PHI economic evaluations

As previously highlighted, PHIs often seek to address health inequalities (Egan et al. 2013). Indeed, Cookson et al. (2009) state that health equity is a key objective of recent public health policy. Commonly outcome measures of economic evaluations such as QALYs are given equal weighting and value regardless of the recipients, with a focus on the invention’s efficiency and failing to account for equity in its delivery (Weatherly et al. 2009). As Cookson et al. (2009) demonstrate, this approach does not readily adapt to the broader nature of PHIs, and thus economic evaluations fail to identify “how an intervention might change existing patterns of health inequality between equity-relevant population subgroups” (Cookson et al. 2009:234). That is, the additional worth of a health inequality reduction compared to other uses of resources (the opportunity cost). Methods to incorporate equity within economic evaluation are still currently in early development as a balance must be struck between providing the most cost-effective public healthcare with the most worthwhile approach (Weatherly et al., 2009, McIntosh et al., 2012, Cookson et al., 2009). A key point is that the perspective taken when conducting an economic evaluation may greatly alter discussions around equity decisions. For example, health

technology assessment bodies such as NICE typically have a societal decision-making framework and conduct CEAs from a health-sector perspective. Thus, decisions regarding a health intervention's value are typically taken with the perspective of there being a defined health budget and should only include health benefits and costs within the health sector. Such approaches could limit our understanding of the full societal gains and opportunities that could be sought from the intervention by not including these in considerations to inform trade-off decisions made regarding the ability of the intervention to not only reduce health inequality but also contribute to total population health improvements.

What has begun to be identified within the economic evaluation literature is the possibility of adapting existing frameworks primarily through the use of CBA techniques and CCA to expand the evaluative space to create those methodologies that can incorporate these wider considerations for PHIs such as equity when looking at interventions that benefit groups with different characteristics and possibly differing socio-economic circumstances (Shiell et al., 2008). Indeed, in 2009, Shiell suggested that it is essential that equity feature in economic evaluations and presented the PROGRESS checklist as initial factors for consideration. PROGRESS stands for Place of Residence, Race/Ethnicity, Occupation, Gender, Religion, Education, Socioeconomic Status, and Social Capital (Shiell, 2009).

Multiple Criteria Decision Analysis (MCDA) and Social Return on Investment (SROI) have been developed to examine broad values (beyond those captured by QALYs) and incorporate multiple criteria to identify the most preferred option. These will now be briefly outlined.

Multiple Criteria Decision Analysis (MCDA)

MCDA methods enable decision makers to consider and compare multifaceted information and establish priority setting (Defechereux et al., 2012). MCDA is relatively new to health care decisions yet has been used extensively in environmental and marketing sciences to set intervention priorities and resource allocation decisions (Youngkong et al., 2012). The method looks at a complex problem (which has a mix of monetary and non-monetary objectives) and breaks

the decision process into more manageable ‘portions’ “to allow data and judgements to be brought to bear on the pieces, and then of reassembling the pieces to present a coherent overall picture to decision makers” (DCLG, 2009:46). The stages of a MCDA are (Defechereux et al., 2012, Thokala and Duenas, 2012):

1. Identifying policy criteria (i.e. distributional impact);
2. Identification of alternative ‘packages’ which include combinations of the policy criterion;
3. Measuring the preferences for alternative packages (commonly using DCEs);
4. Identifying the preferred option by scoring each against the policy criteria.

By allowing for comparisons across dissimilar information, MCDA is a promising means of disseminating complex issues/problems into a transparent process. It provides a transparent and generalisable priority-setting approach (Youngkong et al., 2012).

Social Return on Investment (SROI)

SROI provides a framework for measuring broader values that are “beyond what can be captured in financial terms” (SROI Network, 2012:8). SROI measures environmental, social or economic outcomes and then converts them into a common monetary unit to represent their value. Therefore it allows for comparisons between organisations to be conducted (between funders) (Salverda, 2013). Similarly to CBA, it includes a ratio (in CBA this would be used to compare different projects) to explain the general progress of development. The key stages of a SROI are (Salverda, 2013, SROI Network, 2012):

1. Define the scope and objective of the programme/initiative;
2. Identify the key stakeholders who will influence (either positively or negatively) the programme;
3. Develop a Theory of Change (sometimes referred to as a ‘business plan’);
4. Identify inputs and outcomes of the programme;
5. Value each input and outcome using a monetary unit (relies on both quantitative and qualitative methodology);
6. Calculate the SROI ratio.

The SROI ratio is a comparison of the inputs (investments) and the outcomes and impact made by the programme (Salverda, 2013). This is a complex process as the costs and outcomes of the programme may not be readily converted into a monetary value. Often to ensure validity and the robustness of the data included, a series of qualitative work such as interviews are carried out simultaneously (SROI Network, 2012).

5.7 Economic evaluation of CE within an urban regeneration context

As previously stated, this thesis is focussed on how to identify, measure and value CE as an outcome (and an interim outcome linked to health) of urban regeneration. This thesis aims to inform the economic evaluations of future delivery of CE promoting activities as part of urban regeneration interventions as a means to producing future health gains. Chapters 2 to 4 have identified initial evidence from the literature on how urban regeneration interventions can impact CE and, how CE can be associated to health. Yet, how best to quantify, measure and value CE as an ‘outcome’ (and interim outcome linked to health gains) within this type of PHI (urban regeneration) has not yet been determined. Currently, there are two economic evaluations of regeneration which incorporated CE. Firstly the ‘Valuing the Benefits of Regeneration’ report conducted by Tyler et al. (2010) on behalf of the Department of Communities and Local Government (DCLG). This study was commissioned to explore how to value the benefits of regeneration and compare them with their relevant costs. Within this study, research was carried out on how to value ‘community development’ activities which seek to improve civic participation, resident involvement and referred directly to CE with initiatives seeking to “bring about stronger, more active and better connected communities” (Tyler et al., 2010:89). The study identifies four key activity types which “can bring outcomes such as greater trust, higher levels of quality of life and can feed through into economic benefits” (Tyler et al., 2010: 90). These were: volunteering, investment in community organisations, formal participation and community facilities. The authors identify that there currently exists limited evidence on the quantification of outcomes from these activities and their associated value. Indeed they state that the majority of available evidence is qualitative, thus can only conduct a valuation for volunteering activities and investment in community

organisations. First, they used amount of time spent volunteering and minimum wage to then translate this to “gross value added using established ratios for employment costs to gross value added for sectors we believe fit well with the activities being delivered by many social enterprises” (Tyler et al., 2010:91). This use of ‘time’ allowed them to identify a proxy indicator of the value members of the community attached to the volunteering activities when no established monetary unit was available (as volunteering is a non-monetary outcome). Secondly, they used level of local income generated by community organisations as their turnover to calculate a proxy social gross value added from investing in community organisations. However, inability to separate costs of encouraging participation from regeneration delivery costs and the overall wide variation between regeneration initiatives meant that these were not costed or formally incorporated into the economic evaluation.

Such challenges and limitations from a lack of available evidence were reported in 2015’s evaluation of the impact on health inequalities of approaches to community engagement in the New Deal for Communities regeneration initiative by Popay et al. (2015). In order to provide costings for community engagement and empowerment, the research identified two sources. Firstly, they analysed accounting data collected throughout the New Deal for Communities (NDC) 10 year period. However, analysing this data retrospectively was problematic due to the broad range of activities linked to community development approaches in the programme and thus, an inability to assume that all related activities were accounted and costed. This was further confounded by the second source of data, in-kind and volunteer time inputs. Popay et al. (2015) state that in order to attach monetary values to individual participation and volunteering they relied on local documents and telephone interviews with 2 previous NDC organisers. The interviews highlighted the problematic nature of estimating the value of time spent, whilst in order to elicit costing from previous documents it was necessary to look for ‘marker’ activities (community newsletter production, records of meetings, resident management of greenspaces and event days) to which some costs could be attributed to. The diversity of activities across each of the NDC communities led Popya et al. (2015) to acknowledge that this was by no means a complete list and that their use of retrospective data led to “unwarranted assumptions about the equivalence of information extracted from

the documents at different points in time” (Popay et al., 2015:84). The key disadvantages highlighted by the authors were that their approach meant they were only able to estimate volunteering time (and associated costs), they could not fully account for changes in NDC empowerment and engagement activities and participation over time, and ‘scanty’ documentation meant they were forced to use ‘best practice’ examples due to the inconsistency of data across all implementation areas. Therefore, assumptions and ‘general rules’ were applied and the authors stipulated that in order to avoid future ‘arbitrary’ exercises, evidence needs to be well documented and transparent throughout the intervention.

The aim of presenting detail on these studies is to outline the evidence on the complexity of performing evaluations of the delivery of community activities within urban regeneration programmes.

“Too many evaluations in the past have assumed that empowerment has been achieved and have gone straight to the measurement of outcomes. Such evaluations, however, without the measurement of what empowerment, if any, has been achieved, do not provide a true test of the impact of community empowerment on health-related outcomes and may be one reason why evaluative research on CE in health-related decision-making has failed to provide definitive answers on impacts. Determining whether or not community empowerment has been achieved by the interventions under study requires the development of better measures of community empowerment/control and influence, and ways of measuring the costs and benefits of CE to enable economic evaluation. The measures available in the secondary data that were available to us were relatively crude and underdeveloped, and revealed an obvious research gap that needs to be filled” (Popay et al., 2015:105).

5.8 Next steps

This chapter has outlined the methods of economic evaluation, specific methods used to measure and value outcomes within these common frameworks, the use of economic evaluation techniques for PHIs and has also discussed existing evidence on economic evaluation of urban regeneration programmes. The thesis has started to identify in this chapter, economic evaluation can be applied to PHIs such as urban regeneration, yet their complexity and context-specific nature necessitates techniques that can account for the broader evaluation scope and can be tailored to suit this move away from solely measuring health outcomes (Drummond et al., 2006, Weatherly et al., 2009, Lorgelly et al., 2010). However, when considering CE as a measurable outcome within an economic evaluation of an urban regeneration PHI there is a need to consider all its previously identified 'elements' within this particular context. The development of CE is very context specific and can be made up of a number of elements as identified previously in the literature (Chapter 3). However, currently, no research has been carried out on the relative importance of these elements and no standardised form of CE promotion has been incorporated in urban regeneration programmes. Current practices and policy have yet to identify which element of CE is valued or preferred by residents and the general population to further inform a more cost-effective delivery of future urban regeneration programmes. This is a gap in the current evidence base and without further consideration of how these components of CE are valued it is not possible to 'streamline' the cost-effective delivery of CE within urban regeneration programmes or measure whether it has been achieved as an outcome of the programme, thus leading to potential mental health gains.

Furthermore, as previously highlighted, reducing inequalities is a paramount concern for the evaluation of PHIs. Urban regeneration programmes are most widely undertaken in areas of higher deprivation to address wider determinants of health and these communities' QoL. Thus, as Drummond et al., (2006:28) state, "since the most disadvantaged sections of community are least likely to access services, less is known about what works for these individuals". In order to best understand how to approach CE delivery as part of urban regeneration programmes, we must examine economic evaluation techniques which can capture preferences.

Lack of readily available data and, CE as a non-market good (which is not traded) and is consequently un-priced, does not allow us to ‘infer its value from market prices. Therefore, this presents a challenge as there is a need to attach a ‘value’ to CE in order to assess the cost-effectiveness of investment in it for future urban regeneration programmes and the health gains it may produce.

As this Chapter has shown, economists have sought to attach values to a non-market good through CBA stated preference (SP) techniques. This type of work has previously been applied to environmental amenity/quality evaluations and is a recommended technique by the UK government (Fujiwara and Campbell, 2011).

5.8.1 Summary

This chapter has cumulated in defining the challenge of measuring non-health outcomes of PHIs and the need for more specific consideration of these outcomes to ensure appropriate valuation of their potential added benefits to these multisectoral programmes of work. Previous work conducted in Chapter 3 has already identified that within an urban regeneration context there are certain elements which can be attributed to a sense of CE. Next Chapter 6 will build on the initial theoretical ideas presented here to examine how we can adopt existing economic evaluation methodology to identify preferences for these pre-identified elements of CE within urban regeneration programmes, in order to understand what elements of CE can be measured and valued (research question 4a).

Chapter Six: Using discrete choice methodology to measure and value the non-health outcomes of PHIs

6.1 Introduction

Chapter 5 outlined common methods of economic evaluation, the challenges of PHIs economic evaluations and evidenced how urban regeneration programmes can be regarded as a form of PHI, due to their ability to positively impact on various aspects of an individual's life, health and wellbeing (MacGregor, 2010, Bond et al., 2013). However, despite being well situated to improve residents' health and wellbeing, the complexity of these interventions has meant that methods used to attempt to evaluate these complex interventions need to be tailored to suit the programmes and tease out their health and social outcomes (Thomson et al., 2004, Drummond et al., 2006).

In Chapters 2 to 4, the thesis demonstrated how, within urban regeneration programmes, community empowerment (CE) can be regarded both as an outcome in its own right and as an intermediate outcome linked to health. Yet, from systematically searching the literature (Chapter 3), there was no evidence of CE being measured or valued as an outcome of UR programmes. In their recent evaluation of CE in regeneration, Popay et al. (2015) state explicitly that "determining whether or not community empowerment has been achieved by the interventions under study requires the development of better measures of community empowerment" (2015:105). As previously stated in Chapter 1, this thesis is concerned with the identification, measurement and valuation of CE as a desired outcome of urban regeneration programmes. Therefore, this chapter will first recap what the thesis has already discovered about CE as an outcome in urban regeneration. Following this, a discussion of outcome measurement in economic evaluation will be presented before outlining discrete choice experiments (DCE) as a suitable methodology to address Research question 4 in this thesis. Lastly, the stages of DCE methodology will be presented in full.

6.2 CE as an outcome of urban regeneration

The World Bank outlined that in order to produce an accurate measurement of CE, research must identify appropriate CE elements that are context-specific (Khwaja, 2005). In light of this guidance, a systematic review with narrative synthesis (NS) was conducted and is reported in Chapter 3 of this thesis. By reviewing the heterogeneous evidence base, the review was able to positively conclude that urban regeneration can promote a sense of empowerment. From the NS process, common elements of CE within the urban regeneration were identified. These elements essentially form the evidence base for what is likely to be valued outcomes of CE. Moreover, analyses undertaken with the GoWell research and learning programme within Chapter 4 added further validation for these CE elements. The CE elements identified were:

- **Sense of inclusion and opportunity to participate** in decision-making processes;
- **Time commitments** expected of residents;
- **Sense of belonging** to the community and area;
- **Sense of trust** in stakeholders;
- **Stakeholders funding and support**;
- **Information/knowledge** about the regeneration programme.

Moreover, Chapters 2 and 4 evidenced how CE within an urban regeneration context could be associated to health, specifically mental health, and therefore can be considered an interim surrogate outcome linked to health. Such findings provide additional credence to the UK policy emphasis discussed in Chapter 1, on supporting CE within urban regeneration, for which hypothesised health and wellbeing gains are a key motivator. However, without the measurement of CE (as an outcome of urban regeneration programmes), evaluations will be unable to determine whether CE has been successfully supported by urban regeneration programmes and thus, unable to firstly, verify the benefit of investing in CE supporting activities, and secondly, evidence whether this investment may be a cost-effective pathway to mental health improvement.

As Chapter 5 presented, the evaluation of PHIs and their non-health outcomes requires evaluations to include a broader spectrum of outcomes out-with the healthcare sector (Lorgelly et al., 2010, Chalkidou et al., 2008). Specifically, for

the purpose of this thesis, the PHI in question is urban regeneration and the non-health outcome is CE. The following sections will examine outcome measurement in economic evaluation before going on to present an appropriate technique for measuring and valuing the already identified CE elements within urban regeneration.

6.3 Outcome measurement in Economic Evaluation

As Chapter 5 outlined, how an economic evaluation is conducted and described that the specific framework chosen is dependent on the perspective being taken, the outcome of interest and the specific research question which is being discussed. As McDaid and Needle (2009) outline in their systematic review of economic evaluation in public health, whilst CEA is a common approach used in health technology assessment (HTA) and public health interventions, its outcomes are only applicable for decisions of similar interventions within the same area and does not allow for comparisons across sectors. PHIs can originate from multiple sectors and may have intersectoral impacts thus, evaluations with a wider, societal perspective for which the outcomes are not constrained to one sector, and allow for comparison with other PHIs “originating outside the health sector where health may be one of a number of policy objectives” could be more useful for decision makers (McIntosh et al., 2012:3). As Chapter 5 has already noted, the QALY as a generic outcome measure that can allow for comparisons and considerations of QoL has gained popularity. By incorporating quality as well as quantity of life, the QALY provides “an expression of preference which can be elicited by employing a ranging of preference elicitation techniques [...] but generally off the shelf instruments” (Lorgelly, et al., 2010:2278). These techniques have been fully introduced in Chapter 5 within the methodology of CUA. However, despite providing a measure that can be utilised across sectors, QALYs (and its equivalents), focus on health outcomes and do not include broader aspects and influences on a person’s wellbeing.

“Many public health interventions seek to impact on broader aspects of quality of life, not just health, but also non-health outcomes such as empowerment, participation and crime” (Lorgelly et al., 2010:2278).

Should these non-health aspects of QoL not be correctly captured within PHIs due to inappropriate (or limiting) outcome measures, then their associated value and benefit will be omitted from evaluations thus resulting in an underestimation and misrepresentation of an intervention's total value. Indeed as Ryan and Shackley (1995) emphasise, "if economic evaluation continues to ignore non-health benefits then policy to be made on the basis of incomplete information, which may lead to detrimental effects on efficiency and quality of care" (Ryan and Shackley, 2005:212). In short, they argue that non-health outcomes matter to individuals and impact on QoL and thus should at least be considered rather than assuming that the only benefit of importance is health gain.

Increasing acknowledgement that individuals derive wellbeing benefit (or utility) from other, non-health sources, has led to the question as to how best to measure these elements/attributes which are beyond health outcomes (Ryan et al., 2008b). Moving away from the QALY 'paradigm' to consider the multifaceted aspects of health and how best to include valuations for other elements/attributes has led researchers in the last two decades to borrow from transport and environmental economics to adopt methodology that captures utilities with preferences (Ryan and Shackley, 1995, Reed Johnson and Adamowicz, 2011). More recently, with their basis in RUT, discrete choice experiments (DCE) have been introduced to allow for the examination of trade-offs between outcome attributes and to capture participant preferences (Ryan and Hughes, 1997, Ryan, 2004, Ryan and Farrar, 2000). The use of DCEs allows researchers to value preferences for different attributes alongside one another and to integrate values into one measure (Ryan, 2004). Chapter 5 has previously outlined DCEs and their theoretical foundation in RUT.

"Discrete choice experiments are an attribute based measure of benefit that is based on the assumptions that firstly, healthcare interventions, services, or policies can be described by their characteristics (or attributes) and secondly, an individual's valuation depends on the levels of these characteristics" (Ryan, 2004:360).

Furthermore, as briefly introduced in Chapter 5, with the inclusion of a payment vehicle within a DCE, it is possible for these trade-offs between attributes and overall preferences for attributes to be converted into a monetary units, generating WTP values thereby allowing for the outcome to be included in CBA and comparisons outwith one intervention area and across sectors. As McIntosh et al. (2012) recommend “ideally, outcomes should be valued using a generic outcome measure which enables interventions that may have very different impacts to be compared against a common measure” (2012:3).

6.4 DCE methodology to measure and value CE as an outcome of urban regeneration programmes

As established in Section 6.2, this thesis has demonstrated that within an urban regeneration programme, there are a number of CE elements that affect the success of CE promoting activities. However, preferences for CE as a non-health outcome that, as Lorgelly et al. (2010) stipulate is a broader aspect of QoL that is not readily applicable to outcome measures such as QALYs, have not previously been identified, measured and valued. Indeed, as Tyler et al. (2010) and Popay et al. (2015) have stated in their attempts to incorporate CE into evaluations of urban regenerations, CE is an outcome for which previous measures have been crude and underdeveloped, or omitted from evaluations. Preferences between each of the CE elements have not been determined, thus it is currently not possible to inform cost-effective future investment in CE supporting activities within urban regeneration programmes. Moreover, despite having identified in Chapters 2 and 4 that CE can also be seen as an intermediate outcome linked to improved mental health, without being able to capture and measure CE as an outcome, it will be difficult to inform resource allocation decisions related to optimal investment in CE supporting activities. By treating each of the identified diverse, non-health CE elements as ‘attributes’ or ‘characteristics’ which describe CE as an outcome of urban regeneration programmes, DCE methodology is ideally placed to quantify the trade-offs between the attributes thus generating initial estimates of value. Such attribute valuation will provide valuable new evidence to inform future resource allocation and funding for CE promoting activities (and their link to improved health) within the delivery of UR programmes.

The remaining sections of this chapter will now present the stages of DCE methodology.

6.5 DCE stages

Within economics, it is assumed that individuals will make choices based on utility maximisation (Viney et al., 2002). That is, individuals will choose the hypothetical scenario that will yield them the highest benefit. “Resultant choices reveal an underlying (latent) utility function” (Bekker-Grob et al., 2012:145). The methodology differs from other SP techniques which require participants to rank or rate their choices, instead the experiments seek to mirror real world decision-making processes, forcing individuals to make trade-offs. DCE methodology is founded in Random Utility Theory (RUT) (Lancaster, 1966), with the value of the good/service being determined by its characteristics, not its consumption. The success of the experiment and its underlying theory relies on the creation of realistic decision-making processes that respondents can understand. The design and conduct of a DCE typically has five stages;

1. Identifying appropriate attributes;
2. Define and assign attribute levels;
3. Generate experimental design;
4. Administer questionnaire (collect data);
5. Analyse choices.

6.6 Identifying appropriate attributes

The identification of appropriate attributes for the design of the DCE is an imperative initial stage. As Ryan (1999) stipulates, through careful selection of the attributes, the researcher is able to specify the functional form of the utility function for the good/service. Despite DCEs becoming an increasingly popular method within health economics, the literature on generating attributes is frequently poorly reported (Coast et al., 2012a, Coast and Horrocks, 2007, Kløjgaard et al., 2011). Recent literature has demonstrated that sources for attributes can be varied and often include literature reviews, seeking specialist opinion, focus groups, interviews, theoretical arguments in the literature, existing health outcomes measures, and findings from patient surveys or RCTs (Coast et al., 2012a, Coast and Horrocks, 2007). In their examinations of the development and construction of attributes and their associated levels, Coast

and Horrocks (2007) and Coast et al. (2012a) both refer to Louviere et al. (2000) as ‘expert guidance’ in the field, stating that qualitative work should form the foundation of the attribute identification process.

Currently there exists no gold standard or complete general consensus as to the exact methodology that should be undertaken to identify and define the attributes but some basic considerations have been clarified in the literature (Kløjgaard et al., 2011). Attributes included must be relevant and the most important to the respondents, they should also be realistic and plausible. In addition, attributes should be concise, clear and easy for participants to comprehend and grasp (Coast et al., 2012a, Coast and Horrocks, 2007, Kløjgaard et al., 2011).

Often researchers struggle with establishing a balance between sufficiently describing the good/service that they wish to value and ensuring that the list/set of attributes required to do so is a manageable number. DCEs normally contain between four and eight attributes yet some have contained up to 15 (Kløjgaard et al., 2011, Coast and Horrocks, 2007). Distilling large amounts of information into a manageable number of attributes is key to experimental design development as it affects the cognitive burden faced by respondents. Requiring a respondent to consider a large amount of information through a large number of attributes could lead to respondents making cognitive shortcuts or ignoring information provided in the experiment (Lloyd, 2003). This complicates the task for the respondent.

“The combined set of attributes must describe what the choice consists of, and the attributes must be chosen so that framework with compensatory decision-making. The individual attributes must also reflect the true motivations for the respondents in the given real choice situation”
(Kløjgaard et al., 2011:2).

6.7 Define and assign attribute levels

Attribute levels can be cardinal, ordinal or categorical. Amaya-Amaya et al. (2008) and Kløjgaard et al. (2011) outlined that the role of the number of levels

to assign to each attribute. Firstly, not all attributes need to have the same number of levels. The number of levels included determines the effects and utility functions produced. Using two levels only produces a linear marginal utility function whilst “the analyst’s ability to detect more complex non-linear utility relationships increases with the number of levels” (Amaya-Amaya et al., 2008:18). Thus, including more levels could provide the researcher with a clearer appreciation of the connection between attribute levels and respondent utility. Another consideration that has been raised in the literature, particularly relevant when DCEs are applied to policy questions, is the careful consideration required when categorical levels are used to describe qualitative attributes. There is a need to ensure that the levels are as unambiguous as possible, thus limiting misinterpretation (Ryan et al., 2006).

The higher the number of levels, the larger the experimental design which may be impractical to administer and could increase the cognitive burden for respondents. General guidance dictates no more than four levels should be assigned (Bridges et al., 2011).

6.8 Generate Experimental Design

Following initial identification of the various attributes and their levels it is possible to start the experimental design stage of the DCE. That is, developing the combinations of attribute levels to create the alternative hypothetical scenarios (choice sets) to present to respondents (Amaya-Amaya et al., 2008, Mengoni et al., 2013). The design theory underpinning this third stage stipulates that the process of determining the choice sets must be statistically efficient (Amaya-Amaya et al., 2008). In order to achieve this, researchers use matrixes that create the choice-set within the survey, using columns for attributes and rows for the levels (Street et al., 2008).

In order to identify the appropriate experimental design, there are four initial considerations that must first be addressed (Bliemer and Rose, 2009).

1. Coding of levels;
2. Model specification;
3. Experimental design type;
4. Questionnaire development.

6.8.1 Coding of levels

As already discussed, the experimental design requires the use of a matrix. Within these matrixes, “the numbers in the table correspond to the attribute levels for each attribute and are replaced by their actual attribute levels later on in the questionnaire” (Bliemer and Rose, 2009:504).

“The most common ones are design coding (0,1,2,3, etc.), orthogonal coding ([-1,1] for two levels, [-1,0,1] for three levels, [-3,-1,1,3] for fours levels etc.), or coding according to the actual attribute level values” (Bliemer and Rose, 2009:504)

One advantage of the orthogonal coding approach is that it creates ‘independent variation’ as all the correlations between the included attributes must be zero (Reed Johnson et al., 2013).

An additional consideration during this stage of the design process is the range of levels assigned to the attributes. As explained by Bliemer and Rose (2009), a wider range in levels can be preferable as it provides the researcher with parameter estimates with a smaller standard error. However, choosing too wide a range could result in alternatives that dominate whilst using a range that is too narrow can lead to alternatives that are too alike and consequently trade-offs are not highlighted (ChoiceMetrics, 2014).

6.8.2 Model Specification

Prior to the creation of the experimental design it is imperative that the model and its parameters are described. This stage is known as ‘identification’ and it refers to the design’s ability to generate unbiased parameter estimates from the data of each parameter within the model (Reed Johnson et al., 2013). Failure to clarify this stage can lead to design producing studies where effects are confounded, the design lacks efficiency and could result in bias estimates.

Firstly, the number of alternatives being presented to the respondents needs to be determined. Good practice guidelines from the ISPOR (International Society for Pharmacoeconomics and Outcomes Research) Task Force (Bridges et al.,

2011), recommends that respondents are presented with two alternatives (scenarios) at a time. Furthermore, in keeping with good practice guidelines an ‘opt-out’ option should also be provided. The utility function of this alternative is zero. This allows the researcher to ensure that respondents make more informed choices and express their true opinions rather than being forced into a choice. This limits the distortion of attribute importance (Boyle et al., 2001).

Another consideration with model specification is whether it is generic or not. A generic design is unlabelled whilst the other option is an ‘alternative-specific form’. Amaya-Amaya et al. (2008) emphasise that the use of the latter can reduce the cognitive burden for the respondent as they are provided with some reference points regarding the scenario. There is evidence that this provision of scenario labels could alter the trade-offs and marginal rates of substitution between attributes (Amaya-Amaya et al., 2008).

Two further considerations for the study design are degrees of freedom and the attribute level balance. As Bliemer and Rose (2009) emphasise, degrees of freedom equates to the number of attributes included in the design plus one. That is, the number of choice-sets within the experiment should match or exceed the number of parameters estimated by the researcher. The formula and ‘rule of thumb’ often adapted by researchers for this is as follows (ChoiceMetrics, 2014):

$$S \geq K/(J-1) \quad (E6.1)$$

S - Number of choice-sets;

K - Maximum number of parameters plus one;

J - Number of alternatives (2).

However, as previously stated, the number of choice-sets included in the study can affect respondent efficiency with too many acting as a cognitive burden for participants. Studies that fail to take this into consideration can lead to respondents disregarding the choice questions. As outlined by Reed Johnson et al., (2013) in the ISPOR good practice guidelines, there must be a trade-off between statistical efficiency and respondent efficiency. The statistical efficiency of the design increases with the number of the trade-off questions presented to the respondents and yet, respondent efficiency decreases when participants are presented with larger designs. To address this balance, degrees

of freedom are referred to as good practice standards (Reed Johnson et al., 2013). Coast et al. (2012b) found that the number of DCE response rates did not differ greatly when respondents were presented with eight scenarios or 16 scenarios. Attribute level balance refers to each of the attribute's levels appearing equally throughout the design (Street et al., 2008).

6.8.3 Experimental Design Type

In recent years, throughout health economics, DCEs have become a more commonly used technique for measuring the benefit of various policy decisions or services. As such, the variation in design types has grown exponentially to suit its many applications (Bekker-Grob et al., 2012). In their systematic review of the use of DCEs in health economics, Bekker-Grob et al. (2012) identified that fractional factorial designs (FFD) are the most popular design adopted by researchers, yet they emphasise the increasing use of D-efficient designs.

6.8.3.1 Design Options

A full factorial design includes all combinations of attributes and their levels. This is the most statistically efficient design, and allows for all interactions to be investigated. However, the feasibility of this design is limited as respondent efficiency decreases due to the inordinately large number of choice-sets presented to participants. This creates a high cognitive burden.

Due to financial constraints and the potentially 'burdensome' format of full factorial designs, typically researchers choose a subset or reduced design; fractional factorial designs (FFD) (Bridges et al., 2011). FFDs concentrate on the main effects and interactions provided by participants as they choose an attribute based on the levels of another in the choice-set. Main effects refers to "the effect of each independent variable on the dependent variable" (Bekker-Grob et al., 2012:148). However, this design does have some limitations. Identifying interaction effects between attributes becomes more difficult due to the forfeiting of some statistical efficiency. It is not always possible to isolate the main effects from the interaction effects which then leads to 'confounding'. There are two main types of these designs: orthogonal and, with increasing popularity, efficient designs.

Orthogonality refers to ‘statistical independence’ and in DCE’s relates to attributes being independent (Louviere et al., 2000). In orthogonal designs attributes are not correlated with one another. This ensures that researchers can determine an attribute’s individual influence on the trade-offs/choices made by respondents. There is an expectation of no association between attributes. Other characteristics of an orthogonal design are attribute level balance (previously described), utility balance (no choice-set alternative dominates the other), and minimal overlap (ensuring different attribute levels are shown in choice-sets). Overlap in attribute levels in the choice sets limits information on preference and a respondent’s trade-offs (there is no difference between the choice sets). It is not plausible to present equal utility in all choice-sets as this leads to random unobserved components/attributes dominating respondents’ choices (they randomly select a choice-set as they have no preference) (Louviere et al., 2000). Orthogonal designs can result in unrealistic/implausible choice-sets. Implausible choice-sets are defined as those which are regarded by participants as being “inconsistent with logical expectation” (Reed Johnson et al., 2013:7). Researchers may choose to revisit the attribute identification process to eliminate these scenarios by ensuring that the attributes are not interacting with one another.

Should an orthogonal design be identified yet considered a cognitive burden for respondents with too large a number of choice-sets, a technique known as ‘blocking’ can be adopted. Dividing the total number of choice-sets into equally sized blocks that are then randomly assigned to respondents is known as a blocked design (Reed Johnson et al., 2013). To ensure the design’s orthogonality is maintained, all blocks must be equally represented in the overall design (ChoiceMetrics, 2014). The popularity of the orthogonal design historically is largely due to the use of linear regression methodology for analysis (ChoiceMetrics, 2014) where lack of multicollinearity is essential. Ease of design using software packages and the ability to determine the influence attributes through “enforced statistical independence” (ChoiceMetrics, 2014:67) has further cemented the popularity of this design.

Yet, should researchers wish to conduct non-linear regression analysis or avoid the possibility of dominant choice-sets, the use of efficient designs has gained

popularity in recent years. In a recent review of experimental designs for DCE, Rose and Bliemer (2014) state that efficient designs are more suited to DCE surveys than orthogonal designs. They highlight how this type of design is customised to the parametric model type utilising prior knowledge of preferences.

Efficient designs have the 'smallest variance matrix'. A key motivation for the move away from orthogonal designs is the improved quality of the data obtained and the lower cost of conducting an efficient design (Hess and Rose, 2009). The use of actual preference knowledge i.e. 'priors' as the basis of the design results in more accurate preference information which in turn means the design is suited to a smaller sample size and/or fewer questions. The priors (parameter estimates) are either determined through available literature in the form of similar studies or from pilot studies.

Statistical efficiency measures are used to assess the design and calculate the inefficiency created, with the most commonly used measure being D-efficiency (Hall et al. 2001). As Reed Johnson et al. (2013) state in their ISPOR Good practice report, algorithms are used by software packages to "minimise the joint confidence sphere around the complete set of estimated model parameters by maximising the determinant of the inverse of the variance-covariance matrix in maximum-likelihood estimation" (Reed Johnson et al., 2013:8). The D-efficiency measure is known as the D-error score. The lower the D-error scores the more efficient the design. However, the most D-efficient designs, which are built on informative priors rather than assuming that parameters are uniform and all equal to zero (how orthogonal designs are created), are considered to be statistically more efficient (ChoiceMetrics, 2014, Reed Johnson et al., 2013). However, this optimality and efficiency will only hold if the zero parameters hold, this is unlikely and a constraint to the design created (ChoiceMetrics, 2014). Furthermore, perfectly efficient designs are those designs which are full factorial and include all possible choice-sets, allowing all interactions and main-effects to be determined. As previously shown, this is cognitively burdensome for respondents and financially demanding to conduct thus researchers have to compromise for a smaller design. This represents the main advantage of D-efficient designs.

Unlike orthogonal designs, due to the use of priors, D-efficient designs may not show each attribute level the same number of times. Using specialised software, scanning the full factorial design options to produce a sub-set that meets the required number of choice-sets. What may change “the likelihood that particular trade-offs are evaluated by respondents” (Reed Johnson et al., 2013:9). Learning from the priors, the design is less likely to produce designs with dominant pairs of scenarios or implausible scenarios (which do not give researchers information about trade-offs) and the lowest possible D-error score. It is important to note that there is no ‘established threshold’ or gold standard for how small the D-error score should be.

6.8.4 Questionnaire Development

Once the experimental design has been decided, it must be determined how the attributes and their levels are presented within the choice-sets and questionnaire/survey and the sample size required for the survey.

Commonly, choice-sets are presented with attributes in rows and the different alternatives as columns. This conventional method has been shown to be clear for respondents to understand. DCEs are typically conducted by postal survey, face-to-face interview or via online panels (Louviere and Lancsar, 2009, Ryan et al., 2008a). Using an interview format allows researchers to aid respondents struggling with the choice decision task. However, due to financial constraints and the time commitment required, this is not always possible. Thus, it has become increasingly popular to administer DCEs via online panels. The advantages of this methodology are that it allows for quicker data collection and fewer data entry errors, whilst often being less expensive than alternative methods (Schwappach and Strasmann, 2006).

6.8.4.1 Choice context

The difference between hypothetical and actual values is called hypothetical bias (Özdemir et al., 2009). In order to reduce this bias and to make the choice task as realistic as possible, clearly describing the choice context is paramount. This is also known as ‘cheap-talk’. This contextual information helps respondents familiarise themselves with the good or service in question, and its

characteristics and which can reduce the occurrence of random errors in the task due to misinterpretation or lack of understanding. This is of particular importance when there is a lack of predetermined familiarity with the good or service.

**“Cheap-talk provides subjects with a rationale for devoting more attention to the survey that they otherwise might do”
(Özdemir et al., 2009:900)**

The use of cheap-talk gained popularity in environmental economics whereby, studies found that by presenting participants with information prior to the choice task enables them to engage more efficiently with the task and provides more realistic estimations of respondents values, (comparable to those from revealed preference tasks) (Cummings and Taylor, 1999, Reed Johnson and Adamowicz, 2011). This technique consequently increases the validity of the estimates derived. However, it is important to note that this context setting must not only be as realistic and comprehensive as possible for the respondent but, should also be neutral and not ‘leading’ as this could affect the robustness and validity of the preferences stated (Cummings and Taylor, 1999). Furthermore, the information should be concisely provided to ensure that it is not too cognitively burdensome, with respondents becoming fatigued prior to starting the task.

Some DCEs have used visual aids to communicate information and enhance respondents’ understanding of the attributes and the choice setting they are faced with, the most common approach is text description (Watson et al., 2004). Furthermore, it is common good practice to include a warm-up, ‘example’ task to demonstrate to familiarise participants with the scenario formats and make sure their decisions are informed and not hindered by other sources of misunderstanding.

6.8.4.2 Sampling

With more researchers using now online survey companies, this improves the number of responses they can achieve as it is less costly than face-to-face interviews. Some sample size guidance is available to researchers (Louviere et

al., 2000). Initial sample size calculations by McFadden (1984) stated that “sample sizes which yield less than thirty responses per alternative produce estimators which cannot be analysed reliably” (McFadden, 1984:1442). A review of sample size methodology by Bekker-Grob et al. (2015) identified that the rule of thumb method used more commonly in DCEs is that by Orme (2010). This is used for main effects designs and uses the estimation of main effects only:

$$N \geq 500 \times \frac{L}{J \times S} \quad (\text{E6.2})$$

Where L is the maximum number of levels of any of the attributes, J is the number of alternatives in a choice-set (excluding an opt-out) and S is the number of choice-sets. Orme (2010) further elaborated that a minimum of 200-300 respondents should be used. The main constraint to sample size calculations is that without knowledge of exact ‘true’ parameters, which are required to estimate sample size to ensure certain confidence intervals are met, there is no hard or fast rule (Bekker-Grob et al., 2015). Rose and Bliemer (2013) suggested a parametric approach which requires prior parameter estimates that are significantly different. Bekker-Grob et al. (2015) have recently built upon this to produce a parametric approach which requires the researcher to know the significance level, statistical power level, statistical model they will use for their DCE analysis, predictions of the parameter values and knowledge of their DCE design. Whilst this presents an interesting advancement to DCE design literature, knowledge of these requirements are not always known if no previous literature on measurement of the good/service is known. As a new development, there needs to be further testing of these methods.

6.8.4.3 Validity testing

Another means of ensuring that respondents engage with, and remain engaged throughout the choice task, is the addition of reliability and consistency checks to the DCE (Miguel et al., 2005, Burr et al., 2012, Liebe et al., 2012). A reliability check refers to repeating a choice-set later in a choice task by presenting the same scenarios yet reversing scenarios. This shows if the respondents are selecting the same choice both times and fully engaging with the task and being unwavering in their preferences. Consistency checks are choice-sets where one scenario is constructed to be theoretically more

attractive to respondents than the other. These are manipulated and created by the researcher but are not part of the DCE task and their inclusion would affect the design's validity. Respondent failure to complete these checks can result in respondents being omitted from the DCE. Once respondent validity was clarified and established and prior to conducting any analyses from the data, these choice-sets will be eliminated from the experimental design.

6.9 Data analysis

As previously introduced in Chapter 5, MXL models have replaced multinomial (MNL) models as the preferred model for analyses of DCE data. MNL models do not allow the resulting model to accommodate panel data, where multiple (often correlated) decisions are observed from the same individual, which is the premise of DCEs. Thus, models which allow for random effects are required. The model allows for the assumption that whilst making multiple decisions, an individual may have a preference for an attribute. As Revelt and Train (1998) state, by allowing for repeated choices from the same participant, data can be observed dependent as a panel (by individual). Building on RUT equation (E6.2), the utility function for the model is as follows when respondent j is presented with alternative i :

$$U_{ij} = \beta_j X_{ij} + e_{ij} \quad (\text{E6.3})$$

As shown in E6.3, U_{ij} is the utility that respondent j receives from i where β_j is the vector of coefficients, X_{ij} represents both the specific (socio-economic) characteristics of individual j and i is the alternative-specific (scenario) attributes. e_{ij} is the remaining random 'disturbance' (Hwa, 2006). $\beta_j X_{ij}$, as the 'known' component of utility, could change across individuals thus β_j is expanded to include n_j , an indication of how an individual's taste changes to the average population:

$$\beta_j = b + n_j \quad (\text{E6.4})$$

As such, the full utility function specified by MXL is:

$$U_{ij} = bX_{ij} + n_jX_{ij} + e_{ij} \quad (\text{E6.5})$$

In E6.5, b represents the vector of coefficients, X_{ij} is a vector of the known utility, n_jX_{ij} is the random effects whilst e_{ij} signify error terms. Furthermore, a key strength of the MXL model is its ability to relax the IIA assumption “by specifying the unobserved portions of the utility as a combination of the IIA and another distribution g that can take any form” (Hwa, 2006:195) and allow for correlation among alternatives (Hwa, 2006, Revelt and Train, 1998):

$$U_{ij} = con + \sum(a) \beta_a L_{aij} + \sum(t) L_{aij} n_j + g_j + e_{ij} \quad (\text{E6.6})$$

Here con is the constant term of the model (if alternative a is chosen), a represents the a^{th} attribute, β_a are the coefficients of L_{aij} , (level difference between attributes across scenarios), t is the coefficients of interaction terms between attributes L_{aij} and n_j (socio-economic characteristics), whilst g_j represents taste variation across the respondents, taking any distribution form and e_{ij} is the error term. The latter components are IID. U_{ij} , as the indicator of the choice made by the respondent, is normally binary coded (0,1), identifying if that alternative was chosen.

MXL models provide more information than standard (conditional) logit (CL) models as they allow for differences among respondents and for multiple observations for each individual. CL models only incorporate fixed effects of the attribute levels. Random effects models (such as MXL), with the observation of socio-demographic characteristics provide a detailed and rich data set. With careful consideration and well thought out hypotheses, researchers are able to put the now increased number of coefficients to good use. They can include interaction terms (Revelt and Train, 1998). Combined with increased computer speeds and more advanced statistical software packages, once a hindrance to the development of more computationally demanding MXL models, these models are becoming the norm of DCE research. Their ability to include random taste variation and correlation in unobserved portions of utility go beyond probit models which are restricted to normal distributions.

6.9.1 Non demanders

Also known as ‘non traders’, these are participants who do not “exhibit a preference ordering, either due to true indifference or due to ‘protesting’, no useful inferences can be drawn” (Schwappach and Strasmann, 2006:443). Choice sets where participants choose to ‘opt-out’ do not reveal a preference and trade-off between attribute levels and are often excluded from the DCE analysis though some studies perform additional analysis to try and identify socio-demographic characteristics explaining their non-trading behaviour (Schwappach, 2005, Schwappach and Strasmann, 2006, Lanz and Provins, 2015)

6.10 Next Steps

This Chapter outlined DCE as a suitable approach to the valuation of CE and its non-health components. The stages of conducting a DCE were then outlined. This chapter directly addressed Research question 4 of the thesis (can economic evaluation techniques be used to measure and valued CE as an outcome of urban regeneration programmes?). Chapter 7 will now describe the DCE methodology used to value CE in an urban regeneration context.

Chapter Seven: DCE methodology for valuing community empowerment (CE) in an urban regeneration context

7.1 DCE Aim

As previously established, activities that seek to promote community empowerment (CE) and are delivered as part of an urban regeneration programmes vary due to contextual factors (such as type of regeneration underway, what the community wants, resources available, and timescales). However as recognised earlier in the thesis, through investigation of available literature (Chapter 3) and secondary analyses of the GoWell dataset, it has been possible to identify CE features that either help or hinder its development within urban regeneration programmes. Furthermore, this work has demonstrated the possibility of increased sense of CE within urban regeneration programmes as a pathway to residents reporting improved mental wellbeing.

Despite the growing recognition of the role of the community as a key stakeholder of urban regeneration programmes, with stakeholders and policy makers alike seeking to foster community engagement and CE, the current evidence base of the value or cost-effectiveness of the provision of CE activities and their role in the delivery of the desired health benefits/outcomes resulting from urban regeneration programmes has yet to be fully determined (2010, Findlay, 2010, Scottish Government, 2013a). As Chapter 6 highlighted, stated preference methods, more specifically DCE methods, with their ability to measure and value ‘attributes’ including non-health and other process-type features of a service or good are a suitable approach for quantifying trade-offs. Such a methodology is well placed to value CE elements as an outcome of urban regeneration programmes. Therefore, this Chapter will outline the DCE methodology adopted to continue to address Research questions 4 and 4a.

7.2. DCE Stage 1 – Identification of attributes

As shown in Chapter 6 (Section 6.6), the initial stage of designing a successful DCE is the identification of relevant and appropriate features of the good/service being valued. These are known as ‘attributes’. This stage ensures that the trade-off decisions made by respondents as they compare attribute levels between alternative scenarios presented to them are realistic and closely resemble a ‘real-life’ market decision-making process. As (Coast et al., 2012a) highlight, there is a clear role for qualitative methods in attribute development, yet this must not be conducted in an ad hoc manner and transparency of work undertaken is essential.

As stated in Section 6.6, there is no gold standard or general consensus as to how to undertake this qualitative work. However, recent literature has demonstrated a clear preference for the use of literature reviews and expert guidance as valuable sources of information, clear indicators of the feasibility and framing of attributes (Mangham et al., 2009, Coast and Horrocks, 2007, Baltussen and Niessen, 2006). Following this guidance and expert opinion and training gained from attendance on ‘Design and analysis of discrete choice experiments’ course run by London School of Hygiene and Tropical Medicine (LSHTM) August 2014, the following sections describe the process of attribute identification undertaken for this thesis.

7.2.1 Narrative literature review and Gowell data analyses

Hitherto, this thesis has sought to identify characteristics of CE within an urban regeneration setting utilising both quantitative and qualitative research. The systematic review with NS conducted in Chapter 3 (Section 3.7.3.6) identified key features that either foster or hinder the development of a sense of CE in an urban regeneration context. A full discussion of the systematic review with NS results is presented in Chapter 3. In Chapter 4, when examining the characteristics of respondents who are experiencing regeneration in one of 15 neighbourhoods of greater Glasgow, it was possible to further evidence necessary components of CE in an urban regeneration context. Table 7.1 surmises details of the preliminary ‘source’ of each of the six attributes identified for inclusion in the DCE.

Table 7.1: Attributes: Source of evidence

Attribute	Description	Source of evidence
Inclusion/ participation	The need for communities to be included in the decision-making process with all involved stakeholders.	<p>Highlighted in all 24 included studies of the systematic review with NS conducted, inclusion in the decision making process helps communities feel more empowered. Additionally it was demonstrated that inclusion in key decisions allowed communities and individuals to develop a sense of control.</p> <p>11 studies from the systematic review with NS illustrated that circumstances where the residents did not feel that they were included in the participation process emphasised feeling isolated and a sense of frustration (Hibbitt et al., 2001, Bowie et al., 2005, Khakee and Kullander, 2003, Allen, 2000, Gosling, 2008, Lawless and Pearson, 2012, Blakeley and Evans, 2009, Pollock and Sharp, 2012, Deptford City Challenge Evaluation Project, 1994, McWilliams, 2004, Stubbs et al., 2005). No one agenda should take priority (stakeholder or community). Thus, a shared vision can be created.</p> <p>Furthermore, policies such as the Community (Scotland) Bill now stipulate that inclusion of communities is paramount and central to urban regeneration (Scottish Government, 2015, COSLA and Government., 2009). Communities should be established as a key player in the process of regeneration.</p>
Trust in stakeholders	Affected residents feel stakeholders are trustworthy, creating an honest and transparent engagement process. Furthermore, residents feel stakeholders understand the context and issues affecting communities	7 studies in the systematic review with NS demonstrated that previous bad experiences with stakeholders/local governmental agencies left residents feeling jaded and less motivated to contribute or get involved in the engagement process. Thus, transparency of the decision making processes made affected residents feel more empowered and enabled them to gain a sense of control over local issues (McWilliams, 2004, Muir, 2004, Muir and Rhodes, 2008, Hibbitt et al., 2001, Allen, 2000, Nienhuis et al., 2011, Gosling, 2008, Adamson and Bromiley, 2008).

		<p>Furthermore, studies showed that circumstances where the communities have previously been involved in regeneration decision making processes were more successful in continuing to get residents to be involved. By building on existing local knowledge, networks and social connections stakeholders were more successful at gaining the trust of residents and in turn, communities felt more in control and empowered about issues affecting their neighbourhood (Muir and Rhodes, 2008, Muir, 2004, Martin, 2007, Hibbitt et al., 2001, Adamson and Bromiley, 2008, Pollock and Sharp, 2012, Colenutt and Cutten, 1994).</p> <p>Data analyses of the GoWell survey (Chapter 4, Section 4.4.4) highlighted that, residents who reported they felt more empowered also stated that they were more satisfied with their housing service providers and the relationship they had with them. That is, feeling satisfied with housing service providers including them in the decision making processes had a positive association with sense of empowerment.</p>
<p>Sense of belonging</p>	<p>Residents feel they have a sense of kinship and social connections with others in the local communities - sense of belonging</p>	<p>In data analysis with GoWell survey data resident empowerment was positively associated with their sense of belonging and feeling part of the local community (Chapter 4, Section 4.4.5).</p> <p>4 studies within the systematic review with NS examined the impact of relocation as a result of urban regeneration (Williams, 1969, Keene and Ruel, 2013, Gosling, 2008, Martin, 2007). All 4 studies highlighted a sense of isolation/alienation or stress/anxiety as a result of their move. This loss of social connections was also clearly seen to be disempowering in 1 study where elderly residents who felt they were respected and empowered in their own communities were now at a loss in their new neighbourhoods. Political disempowerment was also described in neighbourhoods where new and existing</p>

		<p>residents failed to build connections and collaborate with one another (Martin, 2007).</p> <p>The provision of space for community meeting and the merit of community centres and their role in bringing people together was mentioned in 1 article included in the systematic review. Furthermore, this was highlighted by community members (experiencing regeneration in Glasgow) attending the 8th GoWell annual event held 24th March 2014.</p> <p>Additionally, as discussed in Chapter 2 previous work by Zimmerman (1995) on the development of personal and organisational empowerment has shown that the capacity to collaborate with others is essential to the development of a sense of empowerment.</p>
<p>Time commitment expected of residents</p>	<p>Amount of time residents are able to give up to attend engagement activities with stakeholders (how much of their free time would they be prepared to sacrifice for empowerment)</p>	<p>6 articles in the systematic review with NS emphasised that participation in engagement activities in urban regeneration programmes is essential yet this requires residents to give up their own time (Hibbitt et al., 2001, Deptford City Challenge Evaluation Project, 1994, Colenutt and Cutten, 1994, Adamson and Bromiley, 2008, Bowie et al., 2005, Muir and Rhodes, 2008). Residents must take a risk without a guarantee of a favourable outcome. Lack of participation was shown as a direct outcome of having other family commitments, and those who are unemployed or housewives/husbands were those more likely to get involved in local projects affecting the area. The need for flexibility and understanding of the other commitments of residents by stakeholders and thus, adjusting the commitment required (or practicalities of engagement activities - e.g. convenient timing of meetings etc) accordingly (Adamson and Bromiley, 2008).</p> <p>Extensive discussion on the use and suitability of this attribute as a payment vehicle can be found in Section 7.2.2.</p>

Resources/ funding	Residents and communities have access to funding, expertise or resources that enable capacity-building and their ability to voice their opinions over issues concerning them.	The systematic review with NS highlighted that stakeholders helping communities become active participants was essential. 8 studies concluded that the provision of resources allowed communities to develop the necessary skills and expertise to participate fully in the urban regeneration process (Adamson and Bromiley, 2008, Hibbitt et al., 2001, Allen, 2000, Gosling, 2008, Muir and Rhodes, 2008, Deptford City Challenge Evaluation Project, 1994, Colenutt and Cutten, 1994, Soen, 1981). The use of jargon, or provision of information in selected languages created barriers within the participation process and failed to address any power imbalances, leading to feelings of isolation/intimidation/disempowerment.
Information/ knowledge	Residents feel informed of local decisions	All studies included in the systematic review with NS highlighted that for residents to feel part of the regeneration process and a sense of CE, there was a need for them to feel informed and knowledgeable.

7.2.2 Residents time commitment as a payment vehicle

As shown in Section 3.7.3.5 and recapped in Table 7.1 above, time commitment from residents was highlighted in the systematic review with NS as an element of CE within an urban regeneration context. McIntosh et al. (2010) highlight that the use of an appropriate payment vehicle is paramount to ensuring that respondents engage with the DCE task and make realistic trade-offs between attributes. Gyrd-Hansen (2013) states that “since payment vehicle is an intrinsic characteristic of a good, the choice of payment vehicle will naturally impact on the valuation of the good” (2013:853). When applied to the field of health, DCEs have often relied on direct payments, tax levies or health insurance premiums as appropriate indicators of an individual’s value for a product/good/service. Thus the choices made by a respondent are often dependent on framing of the payment vehicle with the use of an inappropriate or unrealistic payment vehicle giving an increase occurrence to ‘protesting’ or disengagement (McIntosh et al., 2010).

As noted in Mengoni et al. (2013), the decision to include a payment vehicle attribute to allow an indirect estimation of the willingness to pay (WTP) or, a measure of time to act “as an indicator of the relative value of other attribute levels” (2013:9), can be complex. Self-interest and wanting to maximise one’s utility is a standard assumption of economic literature (Gyrd-Hansen, 2013). Yet, when faced with a good such as CE there could be other factors to consider.

The use of an appropriate payment vehicle for circumstances where respondents may not, traditionally, be expected to pay for the service are difficult to determine and relies on the context to which it is being applied (Mengoni et al., 2013, McIntosh, 2010). Any payment vehicle selected must be relevant to the respondents and their daily lives to help to create a realistic hypothetical choice set and further enable their understanding of the trade-offs they are reporting (Mengoni et al., 2013).

Neoclassical economic theory has explored and identified time as a resource (Sharp, 1981). As highlighted by Klein, “the human experience of life requires the consumption of both time and resources” (Klein, 2007:13). If we take the basic model and perspective of life as an economic act, time is a finite resource within a person’s life that is not exchangeable yet the allocation of a cost unit to time requires extra considerations than just wage forgone (Sharp, 1981, Faria et al., 2012, Vogel, 2015). Indeed, in their review on measuring and monetary valuations of informal care, Faria et al. (2012) state that determining a value for time varies depending “on the research question, the data available and the type of research” (Faria, 2012:29).

As shown in the systematic review with NS conducted and described in Chapter 3 successful CE relies on voluntarism from individuals, detracting from their other responsibilities. That is, residents have to choose to give time to get involved in local activities which could increase their sense of CE. This is not only at the cost of not doing something else but, significantly may not just be linked to their benefit but also contribute to improved circumstances for their area and other residents. Capturing the motivation behind these ‘costs’ to the individual moves away from mainstream economic theory and its assumption that an individual acts solely for their own good. Indeed, as Horoszowski (2014) highlights, being motivated to volunteer and help others can lead to greater personal sense of

wellbeing and life satisfaction outcomes whilst also improving the lives of others.

Furthermore, as El Ansari and Andersson (2011) outline in their review of previous efforts to measure the costs and benefits of public participation there is a general consensus that “public and patient involvement (PPI) is increasingly important in UK health and social policy” (2011:45), a sentiment that has been applied to urban regeneration policy and implementation and a key motivator for the funding of this thesis. As stated, a recognised component of this participation is the time sacrificed by individuals. Indeed “for some, participation is a democratic right worth pursuing despite any costs” (El Ansari and Andersson 2011:46) even personal ones.

Long-term, national research programmes previously funded by the Home Office (INVOLVE, 2005) and the National Institute for Health Research (Popay et al., 2015) clearly reinforce how participation has benefits for both the individual and the community yet they both place emphasis on the complexity on trying to determine, calculate and assign monetary values on this time given up by individuals. The main problem with trying to assign a monetary value to the time is an inability for neoclassical economics to explain ‘altruistic’ behaviour. Individuals are considered to be rational and only make decisions that best suit their interests.

In her discussion of the role of payment vehicles, Gyrd-Hansen (2013) highlights how altruism could be an appropriate interpretation of the source for factors which do not stem from an individual’s self-interest. She advocates that an individual’s utility function includes benefits to others. However the motivations behind these acts are sometimes hard to differentiate between selfish motives and moral obligations. Sen (1997) classifies this a need to distinguish ‘selfishness’ and ‘commitment’.

Selfishness can directly affect the welfare of the individual as they genuinely feel concern for others to the point where they feel ‘sick’. Conversely, commitment does not rely on this personal affliction but rather a rational appreciation for something being wrong and an obligation to act and try to stop it (Sen, 1997). No consensus or direct guidance has been outlined as to what

point these two concepts are mutually exclusive with some such as Wiseman (1998) suggesting that citizens have “a moral right to draw upon the support of the community, but at the same time have a responsibility to contribute to the provision of social services such as health care” (1998:113). In her work she outlines how the conventional goods utility function has been extended, not solely looking placing value on a good that an individual uses but placing value on what are known as merit goods. These are goods that individuals personally perhaps do not use but feel that society should provide them (such as charitable donations for services that benefit the disadvantaged). Economists such as Margolis (1982) have argued that instead of seeing merit goods or economic participation in activities for the good of society rather than just personal gain does not pose a challenge to the assumption of individuals being selfish beings, acting for their own good. Instead the ‘Fair-shares’ model would suggest that individuals ‘selfish’ utility and the other utility gained from participating or contributing to a group activity or societal matter go hand-in-hand (Margolis, 1982). This model demonstrates that this second, ‘other’ utility “relevant to the individual is not the increased ‘group utility’ due to her contribution to this group; rather it is derived from the process of participating. The individual then allocates her resources between these two utility functions to maximise her utility” (Wiseman, 1998:118).

Whilst these interpretations have begun to recognise the need to include altruistic and social dimensions of everyday life as having the potential to ultimately influence a person’s economic behaviour (Wiseman, 1998), research has failed to provide clear guidance on how to create meaningful calculations of participants time sacrifice (no matter their motivation) into monetary values. Thus, despite the acknowledged merit of time given/sacrificed as having value and a source of utility , currently there is a dearth of information. Indeed El Ansari and Andersson (2011) summarise that simple CBA is insufficient and “if participation is to move forward as a field, a broader , composite analytical set of frameworks is required which captures the richness - and unique qualities - of participation” (El Ansari and Andersson, 2011:53).

Therefore, to allow for the complexities of capturing the value of CE within in an urban regeneration programme, and to ensure that a payment vehicle which has

proven credibility within the literature is used, it was agreed that residents time commitment would be used for the purpose of this DCE. Due to the numerous economic arguments and perspectives on motives for participation and the current lack of information on the value of CE within an urban regeneration context, there is a need to provide a generalisable and relevant payment vehicle. In absence of knowing residents true motives for getting involved in CE activities, and the exact opportunity cost they produce in doing so, it is impossible to assume this knowledge and thus, we must rely on stated time commitment as a proxy for their value of the CE scenarios presented to them throughout the DCE. Furthermore as stated in Chapter 7, the researcher has the opportunity to present the participant with all relevant information for their decision-making, and by outlining the premise for the DCE task and guaranteeing that the urban regeneration context and description of CE attributes presented to them is realistic it is possible to incorporate resident time commitment in a clear and meaningful manner.

When choosing initial realistic length of resident time commitments guidance was sought from the Housing Executive (http://www.nihe.gov.uk/index/community/get_involved.htm), Glasgow City Council public records of committee meetings (<https://www.glasgow.gov.uk/councillorsandcommittees/calendar.asp>) and Glasgow Housing Association's (GHA) Engagement and Empowerment strategy (GHA, 2008). These indicated the length of time for meetings and activities undertaken. Willingness to give up time can ultimately be transformed into a monetary value and used in a CBA framework using published value of time estimates from contingent valuation studies. Institutions such as the Centre for Time Use Research (CTUR) at the University of Oxford also offer insights (<http://www.sociology.ox.ac.uk/centres/centre-for-time-use-research.html>).

7.2.3 Ethical procedures

Prior to piloting and conducting the DCE, ethical consent was required from Glasgow University's College of Medical, Veterinary and Life Sciences (MVLS). Application for ethical approval required justification for the research project, detailing research methods, sampling calculations and outlining all agreements regarding data-access and dissemination of findings. Ethics approval for this

study was awarded by the college of Medical, Veterinary and Life Sciences (MVLS) in October 2014. The ethics approval letter can be found in Appendix M.

7.3 DCE Stage 2: Define and assign attribute levels

DCE guidance on optimal number of attribute levels (see Section 6.8) was adhered to and thus, no more than four levels per attribute were assigned (Bridges et al., 2011). Furthermore, a limited mix of attribute levels (two and four) were used as this can result in a smaller number of choice-sets required to ensure that the design maintains an attribute level balance (each attribute level should appear in the design an equal number of times) yet does not result in a cognitively burdensome task for participants. The initial wording for the attribute levels were developed through consultation with supervisors. As described in the following sections, the development of the wording was reviewed through piloting and consultation. The initial attempt at distilling the information provided by the literature and GoWell analysis conducted (please see Table 7.1) into appropriate levels are shown in Table 7.2.

Table 7.2: First version of attribute levels

Community Empowerment attributes	Assigned levels
<p>Inclusion How often are communities given a chance to engage in the decision-making process</p>	<ul style="list-style-type: none"> • Residents participate regularly at times convenient to them • Residents only participate when stakeholders deem it necessary • The community must rely on its own motivation to raise issues • Residents never participate
<p>Trust in Stakeholders Communities feel that their inputs are taken seriously and that information sharing processes are transparent.</p>	<ul style="list-style-type: none"> • Yes • No
<p>Information/knowledge Level of resident awareness of issues and developments in the urban regeneration programme.</p>	<ul style="list-style-type: none"> • Stakeholders regularly provide updates to residents; • Communities have to ask for updates
<p>Sense of belonging Residents sense of belonging and collaboration with others that is improved through consultation and empowerment activities.</p>	<ul style="list-style-type: none"> • Residents know their neighbours well and feel like part of the community; • Residents only know majority of neighbours by sight;

	<ul style="list-style-type: none"> • Residents don't know neighbours yet feel comfortable in the area; • Residents feel alone and alienated
Residents time commitment Amount of time residents commit to ensure their views are heard.	<ul style="list-style-type: none"> • 0 hours every month • 2 hours every month • 8 hours every month • 16 hours every month
Resources/funding Stakeholders provide opportunities and resources for communities to develop skills and expertise.	<ul style="list-style-type: none"> • Yes • No

In order to ensure attribute wording and levels were as appropriate as possible, CB sought advice from specialists with experience of engaging with communities and involvement in local activities. These were identified by emailing colleagues, those involved in local community groups and with the help of Cat Tabbner, the GoWell Community Engagement Manager. Identity (ID) numbers of those contacted are listed below.

- ID 1: An ex-housing officer who had previously worked in neighbourhoods undergoing regeneration in Glasgow and continues to volunteer with local community groups;
- ID 2: A librarian for NHS Scotland who works with communities in Scotland and arranges local consultation meetings they provided invaluable preliminary insight;
- ID 3: The NHS Greater Glasgow and Clyde Community Engagement Advisory group;
- ID 4: A Network Development Officer for the West and Central Voluntary Sector Network (WCVNS).

Aside from ID 3 whose correspondence was conducted solely by email, CB met each of these individuals in person to ask their opinions of the attributes and the levels depicted (Table 7.2). Both ID 1 and ID 2 felt that the main characteristics they considered important for CE (opportunity to participate, sharing of information, availability of stakeholder support, residents time commitment and residents sense of belonging) were covered. However, ID 1 suggested that the 'trust in stakeholders' attribute was potentially too simplistic and felt that descriptive levels would be preferable. 'Trust in stakeholders' was highlighted by ID 1, 2 and 4 as needing the inclusion of feedback, residents knowing their viewpoints are being included. That is, stakeholders have to show consideration

of residents views in their decision-making processes. ID 1, 2 and 4 emphasised the importance of demonstrating to residents/communities how their views can influence decisions. Full disclosure and explanation of decisions taken by stakeholders was seen as a means of establishing trust with communities.

ID 1 stated that a key motivator for involvement in local activities was the amount of time expected and felt that this was the attribute that would dictate most involvement in CE activities, particularly in the current economic climate. ID 1 highlighted that for many individuals employment opportunities may have become more varied or difficult and thus, being able to commit time to other interests may no longer be an option. They might be unable to travel to events or get child-minders for example. Additionally, ID 1 felt that the inclusion attribute could be simplified, that although stakeholders do determine the timings of meetings to an extent, never having the opportunity to participate and relying on your own motivation overlapped and could be combined to one level with more simplistic language.

A lack of clear direction (improvement) across the levels of 'sense of belonging' was noted by ID 1 and 2 and suggested it be simplified to demonstrate the intended improvement.

ID 3 presented the attributes to members of their Patients Panel. They advised that putting 'softer' demographic questions relating to participants own perception of their community and lived experiences of urban regeneration and community empowerment at the start of the DCE task would 'warm up' participants. ID 3 felt that the 'sense of belonging' attribute could be simplified.

ID 4 presented the survey to the WCVNS committee members (individuals from community groups across the region). The committee felt that the DCE task may be hard to understand and that it was essential that clear language was needed to help participants to engage with the process.

Moreover, it was possible to present this initial version of attribute levels for comment at the 7th European Public Health Conference (19th- 22nd November 2014) held in Glasgow, in the format of a poster presentation and as a paper at the winter Health Economics Study Group (HESG) meeting (7th- 9th January 2015)

held in Leeds. Both audiences appreciated the complexity of CE within an urban regeneration context and suggested that perhaps revisiting the wording of the attribute levels was necessary. The HESG discussant highlighted that when participants would be presented with the scenarios, in order to reduce confusion, perhaps repetitive terminology could be used throughout in order to accentuate the implied linear direction of the improvement between attribute levels. Explanation of attribute levels showing an improvement moving away from the baseline level needed to be more clearly stated and outlined in the text descriptors.

Following these consultations, changes were made to simplify the design. As previously stated in Chapter 6 (Section 6.8), guidance states that no more than four levels should be used for an attribute and two levels only allows for a binary utility function to be determined. Therefore, a design in which three levels were assigned to each attribute was created.

Specialist advice sought among Health Economic colleagues at Glasgow University and EM and CT highlighted that one way to reduce any confusion and ensure that the attribute levels illustrated clear and rational increase was to use the same wording throughout. Drawing on their previous experience of applying DCEs to healthcare decision-making, supervisors and colleagues noted that whilst attribute levels can be cardinal, ordinal or categorical, only the payment vehicle (time) was cardinal. Furthermore, to assure an easier interpretation of the attributes and a smaller cognitive burden for respondents, the attributes should be treated as ordinal, with a clear ordering to the levels. Following this guidance attribute levels were redefined as shown in Table 7.3.

Table 7.3: Attribute levels redefined

Community Empowerment features	Levels
<p>Inclusion The extent to which you are included in community decision making processes (e.g. through local meetings, regular email/telephone contact).</p>	<ul style="list-style-type: none"> • You never have the opportunity participate • You have the opportunity to participate sometimes • You have the opportunity to participate regularly
<p>Trust in Stakeholders The extent to which community decision making processes are explained and transparent and whether your views are included in local decisions.</p>	<ul style="list-style-type: none"> • Decision making processes are not explained and no consideration of your views is evident • Some decision making is explained and some consideration of your views is evident • Decision making processes are fully explained; you can see consideration of your views in local decisions
<p>Sense of belonging How well you know your neighbours and how valued you feel as a member of the local community.</p>	<ul style="list-style-type: none"> • You do not know your neighbours and do not feel a valued member of the community • You know some of your neighbours and feel a valued member in the community • You know all your neighbours well and feel a valued member of the community
<p>Residents time commitment Amount of your own time you have to give up to ensure your views are heard.</p>	<ul style="list-style-type: none"> • 0 hours every month • 4 hours every month • 16 hours every month
<p>Resources/funding The level of stakeholder provided opportunities and resources for communities to develop skills/expertise and gain new community assets.</p>	<ul style="list-style-type: none"> • None - there is no help or support of any kind • Some - limited help and support is available • Yes - help and support is available
<p>Information/knowledge Your level of knowledge of issues and developments in the urban regeneration programme.</p>	<ul style="list-style-type: none"> • You are not informed about the regeneration programme • You are somewhat informed about the regeneration programme • You are fully informed about the regeneration programme

7.4 DCE Stage 3: Generate Experimental design

7.4.1 Pilot Convenience sample

Carried out November to January 2014 following advice gained from attendance on the ‘Design and analysis of discrete choice experiments’ course run by London School of Hygiene and Tropical Medicine (LSHTM) August 2014, emphasising that it is good practice to conduct a pilot of any study prior to the main survey, a convenience sample of 20 colleagues and friends was used to test the validity and realism of the decision task being presented to participants.

Based on the 2011 census results, the pilot respondents were representative of the UK population (based on age and gender). That is, 11 participants were female (51%) whilst 9 were male (49%). Additionally, these participants were broken down into the age categories shown in Table 7.3.

Table 7.4 Pilot respondent characteristics

Age (yrs)	No. female participants	No. male participants
0-24	3	3
25-44	3	3
45-64	3	2
65+	2	1

Respondents were contacted by email and telephone and completed the survey face-to-face with the researcher. They were also asked to complete a consent form and all data from participants was anonymised. The main purpose of this pilot was to review the validity of the survey design of the DCE task and ensure that it was acceptable to participants.

As outlined in Chapter 6, prior to being presented with choice-sets it was important to provide contextual information of the hypothetical decision making process for them to consider. Thus the researcher and supervision team developed a ‘scene setting’ introduction to the task. This informed the participant about aim of the study and how their views would inform the research. It provided participants with definitions of CE, stakeholders and urban regeneration. Urban regeneration programmes were explained as the redevelopment of urban neighbourhoods to better the physical (e.g. housing),

environmental (e.g. provision of parks and woodlands), economic (e.g. provision of jobs and better transport links) and social (e.g. helping residents build connections/networks within their community) condition of the area. These descriptions outlined how regeneration could involve relocation of residents, home refurbishments and general neighbourhood changes for up to 10 years. This was to ensure that the wide range of regeneration types undertaken throughout the UK (of which the participants may have some experience or prior awareness) were covered in the study. This increases the generalisability of the preferences elicited from this study. Respondents were asked to imagine that they are a resident living in an area undergoing urban regeneration. Lastly, respondents were given an explanation of each of the CE attributes before starting the survey.

The scenarios presented in each choice set were considered 'generic' and unlabelled due to their lack of alternative-specific parameters thus entitled 'scenario A' and 'scenario B'. The utility function of this alternative is zero as there is currently no 'standard' delivery of CE within an urban regeneration programme that can be used and referred to as a 'status-quo' option.

Due to the lack of available prior estimates, the specialist software package Ngene was used to produce an orthogonal fractional factorial design which aims to minimise the correlation between attribute levels in the choice sets whilst producing a cognitively non-burdensome number of choice sets (ChoiceMetrics, 2014). Full details of this design type have been discussed in Chapter 6. The four attributes with four levels and two attributes with two levels resulted in 1024 possible choice sets (3^6). As previously discussed in Chapter 6, in circumstances where there are no available prior estimates an orthogonal design is most commonly used. For this pilot, Ngene specialist software was used to produce an orthogonal design resulting in 12 choice-sets to be presented to participants with allowance for both main effects and interactions between attributes to be captured and aims to minimise the correlation between attribute levels in the choice sets (ChoiceMetrics, 2014). This design requires no prior estimates as no information is assumed about each parameter. Thus, all levels are assumed to be linear. Orthogonal coding of levels was used. The advantage of this approach is that it allows for independent variation as all correlations between the

attributes are zero (Reed Johnson et al., 2013). An example of the choice set format from this pilot is shown in Figure 7.1.

Figure 7.1 Example of a choice set

Scenario 5	Option A	Option B
Inclusion Your inclusion in the decision making process	You have the opportunity to participate regularly	You never have the opportunity participate
Trust in Stakeholders You can see your input being carried out in decision making	Decision making processes are not explained and no consideration of your views is evident	Some decision making is explained and some consideration of your views is evident
Sense of Belonging Your interaction with neighbours and feeling valued in the community	You do not know your neighbours and do not feel a valued member of the community	You know all your neighbours well and feel a valued member of the community
Residents time commitment Time sacrificed to ensure your views are heard.	4hrs/month	0hrs/month
Resources Stakeholders provision of opportunities and resources for communities	None - there is no help or support of any kind	Yes - help and support is available
Information/ knowledge Your knowledge of issues in the urban regeneration programme.	You are fully informed about the regeneration programme	You are not informed about the regeneration programme
Which would you prefer?	<input type="checkbox"/>	<input type="checkbox"/>
	Neither <input type="checkbox"/>	

7.4.2 Convenience sample pilot results

Using STATA 12SE it was possible to produce a conditional logit (CL) model of the results to test the validity of the survey and attributes. This is shown in Appendix N. The lowest level of each attribute was used as the reference level. The model illustrated that despite the small sample size, the results demonstrated the theoretical validity of the survey. That is, relative to the reference level, there was an overall trend that participants would be more likely to prefer a delivery of CE where they are able to participate in decision-

making, trust stakeholders, have access to information, have to dedicate less time and stakeholders provide funding and resources. In theory it is expected that, all else equal, people would prefer to pay less for a good or service. The same assumption can be made about time. Our pilot results showed this. The positive coefficient (in relation to the reference level of 16 hours) indicated that, all else equal, respondents preferred to dedicate less time for CE.

7.4.2 Amendments to survey instrument based upon piloting

15 respondents required some extra explanation regarding how to complete the DCE tasks and suggested that including an example choice-set at the beginning of the DCE was required to allow participants to familiarise themselves with the task.

7.4.3 Main survey: phased approach

Following the convenience piloting an updated main effects orthogonal design using specialist Ngene software package (ChoiceMetrics, 2014) which would provide reliable prior estimates from which to create a D-efficient design. Advice gained from attendance on the 'Design and analysis of discrete choice experiments' course run by London School of Hygiene and Tropical Medicine (LSHTM) August 2014, highlighted that a phased approach to surveying allows for the researcher to collect priors from a small sample to generate a more efficient and reliable design to conduct the main survey. This is considered a preferred approach for conducting a DCE (Rose and Bliemer, 2013). This is known as a phased study. In addition to completing the choice experiment, participants were asked to report some socio-demographic details and self-report their mental wellbeing through the Short form Warwick-Edinburgh Mental Wellbeing Scale (SWEMWBS) (NHS, 2012). This is shown in Appendix O.

7.4.5 Sampling

As outlined in Chapter 6 (Section 6.8.4.2) upon reviewing sample size methodology, a total of 336 respondents were contacted (34 for phase one and 302 in phase two). In order to guarantee a UK representative sample (based on age and gender), online survey panel provider and host ResearchNow (<http://www.researchnow.com/>) was used to collect responses from UK adult

respondents aged 16 years or older. The online survey host allows researchers to specify demographic characteristics upon which they can balance their sample and make it representative.

ResearchNow recruits panellists through email and online marketing worldwide to take the surveys for their clients. To ensure that their recruitment strategies are up to industry standards, they comply with Market Research Society (MRS) code of conduct. ResearchNow work in 36 countries worldwide and also have a Global partner network to provide access to more respondents through other survey panellist sites. In exchange for completing surveys, respondents are offered e-currency (points). For a 10-minute survey they receive approximately 50p. Panellists accrue this e-currency and can exchange it for goods (e.g. shopping vouchers).

ResearchNow respondents are asked to complete the survey online to ensure that it is done in their own time for convenience and ensure it is less burdensome. This ease of access and self-reporting responses (without the aide of the researcher) would ensure that the choices made were as realistic and independent as possible, reducing the risk of contamination or bias of the results. Thus, emulating a real life decision-making process and improving the robustness of the research. Additionally, the use of an online survey ensured the largest possible sample was achievable and not hindered by financial or time constraints. Furthermore, it reduced the possibility of risks or discomfort for the respondent as respondents can choose to complete at their own pace and wherever they want.

7.4.6 Phase One Experimental design

Using Ngene software an 18 choice-set orthogonal was created (ChoiceMetrics, 2014) from the set of attributes and levels identified from the early piloting. The use of six attributes with three levels each meant that to satisfy the degrees of freedom and attribute level balance, the smallest number of choice-sets suitable would be seven. Yet such a design does not allow for attribute level balance. This requires each of the attribute levels to appear equally throughout the design (Louviere et al., 2008) and thus, Ngene software uses computer

programming to produce designs with the smallest number of choice-sets that also satisfies both degrees of freedom and attribute level balance.

7.4.7 Validity testing

As previously outlined in Section 6.4.8.3 validity testing is commonly incorporated in DCEs. For the purpose of this survey and following discussion with other DCE designers, a reliability check was included. Choice-set 16 (a reverse repeat of choice-set 8) was inserted. To pass this test respondents must select the same option both times (for some respondents this could include opting-out both times). Furthermore, a consistency check was also presented to the respondents. There is no set expectation or clear guidance on the form of CE or particular attribute that unanimously residents are more likely to prefer and indeed, highlighting preferences is the purpose of this DCE. However, the convenience piloting and its resultant model demonstrated a clear preference for shorter time commitments expected of residents. To ensure that no assumptions were made about respondents preferences thus, affecting the effectiveness of the consistency check, the only difference made between scenarios A and B was the residents' time commitment levels. The consistency check can be seen in Figure 7.2. In order to pass the consistency check respondents must either select option B or opt-out. Opting-out (selecting neither rather than option A or B) of the consistency check was considered a 'pass' as this still allowed the respondent to register a decision other than the less dominant scenario. In circumstances where the respondent failed both the reliability and consistency checks they were excluded from the study.

Figure 7.2 Consistency check choice-set

Scenario 9	Option A	Option B
Inclusion Your inclusion in the decision making process	You have the opportunity to participate sometimes	You have the opportunity to participate sometimes
Trust in Stakeholders You can see your input being carried out in decision making	Some decision making is explained and some consideration of your views is evident	Some decision making is explained and some consideration of your views is evident
Sense of Belonging Your interaction with neighbours and feeling valued in the community	You know some of your neighbours and feel a valued member in the community	You know some of your neighbours and feel a valued member in the community
Residents time commitment Time sacrificed to ensure your views are heard.	16hrs/month	0hrs/month
Resources Stakeholders provision of opportunities and resources for communities	Some - limited help and support is available	Some - limited help and support is available
Information/knowledge Your knowledge of issues in the urban regeneration programme.	You are somewhat informed about the regeneration programme	You are somewhat informed about the regeneration programme

Which would you prefer?

Neither

7.4.8 Phase one: Soft launch

Conducted in April 2015 using the online survey company 'ResearchNow', a 'soft launch' of the survey was carried out to provide the prior parameter estimates required for an efficient design. Details of the results of the soft launch are shown in Appendix P. From the soft launch a MNL model was created from the survey and provided parameter estimates to create an efficient design. The

model illustrates theoretical validity in the model, namely that respondents valued less time commitment, more opportunity for inclusion, having transparency and consideration of their views, a higher sense of belonging, more information about the regeneration programme, and stakeholders providing help and support. Furthermore, no problems with the design or layout were reported to ResearchNow and no respondents failed to complete the survey. This allowed us to be confident with the current attribute levels and progress to create an efficient design.

7.4.9 Phase two: Main Survey

Following the soft launch an efficient design was created using Ngene software package. As previously discussed in Chapter 6, whenever information regarding parameters is available then orthogonal designs will be outperformed by efficient designs (ChoiceMetrics, 2014). Hence, prior parameters from the soft launch model were entered into the syntax used by Ngene to output an efficient design. As outlined by the ISPOR task force (Bridges et al., 2011, Reed Johnson et al., 2013), a full-choice design will be too cognitively burdensome for the respondent, the use of a FFD (subset) requires a compromise as respondents are not being presented with all possible choice-sets. For a D-efficient design, a means of testing the efficiency of the design is to look at its D-error score. There currently exists no gold standard for the score other than researchers should choose a design whose efficiency is closer to 100% though rarely is a perfectly efficient design created. Thus, for this study a D-efficient design with a score of 92% was used. Full explanation of this score can be seen in Section 6.8.3.1. An 18 choice-set design was used with validity tests identical to those previously inputted in the soft launch. The full survey can be found in Appendix Q.

7.5 DCE Stage 4: Administer questionnaire

The survey was conducted in May 2015. 311 respondents participated in and completed the online survey distributed by ResearchNow. Nine respondents were classified and excluded as 'speeders', completing the survey in under five minutes. Details of participants' socio-demographic characteristics are shown in Appendix R. The full results of the survey are given in Chapter 8.

7.6 Reporting and presenting results

The Mixed Logit (MXL) Model overcomes the Independence of Irrelevant Alternatives (IIA) assumption, and allows analyses to accommodate random taste variation. MXL allows the researcher to represent unobserved heterogeneity in utility assessment. As such, it is possible to capture individual-specific parameters, identify differences among respondents and distinguish between randomness and taste variations (Hole, 2007, Train, 2003, Hensher et al., 2005). The model relaxes the assumption that the coefficients are the same for all individuals. Following guidance from Train (1999, 2003) and sought from demonstrators on the London School of Hygiene and Tropical Medicine (LSHTM) course attended, 500 Halton draws were used for the MXL models produced (Train, 1999). As shown in the STATA guidance for MXL models and their interpretation, the larger the number of Halton draws in the model fitted, the more accurate the results produced. However, this increases the time it takes to create the model thus, a trade-off between time and accuracy is accepted by the researcher. Guidance from demonstrators was to use 500 Halton draws.

Effects coding was applied to all models as this allowed for all effects to be uncorrelated with the intercept (Bech and Gyrd-Hansen, 2005). Thus, for each categorical design attribute, the lowest level was omitted and treated as the reference level, therefore implicitly assigned a value of minus one, with all other coefficients estimated relative to this. Estimation of preferences for each attribute level were therefore relative to the omitted reference level. As outlined previously, residents' time commitment, the chosen payment vehicle was included as a continuous variable with fixed parameters whilst other attributes were treated as variables with random parameters thus allowing for differences among respondents (taste variation) and multiple observations per respondent (Hole, 2007). Additionally, to explore if socio-demographic characteristics had an impact on alternative attributes, additional MXL models with interaction terms were conducted (Revelt and Train, 1998). Estimating MXL models with interactions "is a common approach to accounting for preference heterogeneity in the analysis of DCEs" (Hole, 2007:6).

To interpret the results produced by the MXL model, it was possible to use guidance set by Hole (2007) specifically for STATA statistical software package. Thus the equation stated below was applied to results.

$$100 \times \Phi \left(-\frac{bk}{sk} \right) \quad [E7.1]$$

Here Φ is the cumulative standard normal distribution. bk and sk represent the mean and standard deviation of a particular attribute. The calculation allows for the researcher to determine the percentage of respondents who stated preferences for the attribute level being discussed.

Bech and Gyrd-Hansen (2005) recommend the re-scaling of preferences, that is calculating the coefficients of the reference levels of each attribute which is “defined as the negative sum of the estimated coefficients” (2005:1080). Hence, it was possible to rescaled the coefficients from the MXL model so that the least preferred attribute level became 0 and the most preferred attribute level of CE became 10. Such re-scaling allows the full range of the relative preferences to be estimated. Following this it was possible to determine the shift of each attribute level coefficient from the overall smallest coefficient to determine its position in the range of data. The full calculation is shown in Figure 7.3. As effects coding is used and the model is interval scaled, the ratios of differences between coefficients are unaffected by this transformation. β represents the coefficient.

Figure 7.3 Rescaling equation conducted in MS Office Excel

1. Determine each attribute level's coefficient's 'bias shift' from the minimum coefficient:

$$\text{Bias shift} = \beta + |\beta_{\min}|$$

2. Then identify the attribute level's coefficient position in the overall coefficient data range:

$$\text{Position in data range} = \frac{\text{Bias shift}}{\beta_{\max} - \beta_{\min}}$$

3. Rescale these 0 to 10:

$$\text{Rescaled } \beta = \text{Position in data range} \times 10$$

Another method of reporting results reflecting the relative strength of preferences is through the use of attribute importance scores, a method which has gained increasing popularity across recently published DCE studies (Zickafoose et al., 2015, Wouters et al., 2014). The relative importance of each attribute is calculated by determining the difference between the minimum and maximum coefficients (part-worth utilities) of each attribute. This is then divided by the sum of the differences between all the utilities of all the attributes and multiplied by 100 thus giving the relative attribute importance as a percentage.

Willingness to give up time for each attribute level can also be calculated. Using the MXL model results, the attribute level coefficient is divided by the 'residents' time commitment' coefficient. This is converted into a positive figure and decimal figures are converted into minutes (divided by 100, then multiplied by 0.6). Such a calculation places all attributes on a common cardinal scale akin to money, only this study uses time. This gives the monthly time commitment figure which can be divided into weekly commitments.

7.6.1 Hypotheses

Additional MXL models will be conducted to test hypotheses about respondent behaviours and characteristics established in Chapters 3 and 4.

Hypothesis One: Those who have either experienced urban regeneration, lived in the area longer, keep informed of local decisions, feel that they belong to their neighbourhood or like their neighbourhood as a place to live would give more time to CE activities, would want a stronger sense of belonging, to feel included and more informed of local activities;

Hypothesis Two: Those who are employed will be less likely to give up time for CE activities;

Hypothesis Three: Respondents who rate their mental wellbeing or general health better will be more likely to engage with CE activities.

The full results of the DCE and Stage 5 of the DCE are presented in Chapter 8.

Chapter Eight: Discrete choice experiment results

8.1 DCE Stage 5: Analyse choices

This Chapter presents the results of DCE analyses. 311 respondents participated in and completed the online survey distributed by ResearchNow in May 2015. Nine respondents were classified and excluded as 'speeders', completing the survey in under five minutes. On average, the time required to complete the survey was 9.29 minutes (range 3 - 237 minutes). As described in Chapter 7, the survey included two internal validity tests; one consistency check and one reliability tests. Aside from the 17 non-demanders who were excluded from the main statistical analyses, none of the respondents failed both the reliability and consistency checks. Specifically, 90% of respondents passed the reliability test and 90% passed the consistency test. Therefore, in keeping with guidance of Lancsar and Louviere (2008), no respondents were excluded from the analysis for failing either of these checks. Additional analyses performed on the 17 non-demanders can be found in Appendix N.

8.1.1 Socio-demographic characteristics

Respondents age range was 16-92 years old (mean 46 years old), 49% were male. 66% of respondents stated that they were in a relationship, classifying their relationship status as married, in a civil partnership, with a partner (but not living together) or cohabiting. 25% of survey participants were single whilst the remaining 9% described themselves as widowed, divorced or separated (but not divorced). 55% had children. Over half of respondents (54%) were working (full-time, part-time or self-employed), 9% were unemployed and 6% were students or in training. 25% of respondents were retired and an additional 6% were either not working due to ill-health or preferred not to answer. 43% of respondents were educated to at least an undergraduate degree level or had a technical or business qualification/certificate. 53% had some form of school qualification or had obtained an apprenticeship/trade qualification. Only 4% of respondents possessed no formal qualification. Just over half the respondents (51%) declared their total annual household as £30,000 or more. 83% of the respondents described their ethnicity as 'White-British' and a total of 93% of participants were 'White'. 5% of survey participants were Asian (British or other) and 3%

were Black (British or other). The remaining 1% declared their ethnicity as 'other'. 60% of respondents described their general health as 'excellent' or 'very good'. 28% self-reported their general health as 'good' whilst, in contrast, 12% felt their health was at best 'fair'. Following conversion guidance from the creators of SWEMWBS, the mean score for respondents was 22.35 (Taggart, 2014). This is slightly below the 23.61 population norm reported in the Health Survey for England 2011 (Taggart, 2014). The complete breakdown of respondents socio-demographic statistics is shown in Appendix R.

8.1.2 Neighbourhood and regeneration experiences

75% of respondents had not lived in an area undergoing urban regeneration whilst 25% had previously experienced urban regeneration.

54% of respondents had lived in their current area for 11 years or more. 16% had lived in their current area for 6-10 years whilst the remaining 30% reported that they had lived in their current area for 5 year or less. 95% of respondents liked their current neighbourhood at least 'some of the time'. 77% of respondents felt they belong to their neighbourhood for 'some' or 'most of the time'. 73% of respondents felt that they strive to keep informed of local decisions in their neighbourhood 'some' or 'most of the time'.

8.1.3 Validity

As described in Chapter 7, the survey included two internal validity tests; one consistency check and one reliability tests. Aside from the 17 non-demanders who were excluded from the main statistical analyses, none of the respondents failed both the reliability and consistency checks. Specifically, 90% of respondents passed the reliability test and 90% passed the reliability test. Therefore, in keeping with guidance of Lancsar and Louviere (2008), no respondents were excluded from the analysis for failing either of these checks. Additional analyses performed on the 17 non-demanders can be found in Appendix S.

8.2 MXL Model Results

Table 8.1 shows the model output for the MXL regression of the CE attributes.

Table 8.1: MXL model regression results for CE attributes

Attributes	B (SE)	P-value	95% CI
Inclusion			
You never have the opportunity participate	-	-	-
You have the opportunity to participate sometimes	0.63 (0.34)	0.05	-0.03, 1.29
You have the opportunity to participate regularly	0.6 (0.1)	0.001	0.41, 0.79
Trust in Stakeholders			
Decision making processes are not explained and no consideration of your views is evident	-	-	-
Some decision making is explained and some consideration of your views is evident	0.31 (0.23)	0.17	-0.14, 0.76
Decision making processes are fully explained; you can see consideration of your views in local decisions	0.66 (0.15)	0.001	0.37, 0.95
Sense of belonging			
You do not know your neighbours and do not feel a valued member of the community	-	-	-
You know some of your neighbours and feel a valued member in the community	0.99 (0.6)	0.05	-0.18, 2.16
You know all your neighbours well and feel a valued member of the community	0.67 (0.12)	0.001	0.44, 0.89
Resources/funding			
None - there is no help or support of any kind	-	-	-
Some - limited help and support is available	0.08 (0.16)	0.63	-0.24, 0.40
Yes - help and support is available	0.32 (0.09)	0.001	0.14, 0.50
Information/knowledge			
You are not informed about the regeneration programme	-	-	-
You are somewhat informed about the regeneration programme	0.56 (0.23)	0.02	0.10, 1.02
You are fully informed about the regeneration programme	0.78 (0.09)	0.001	0.60, 0.95
Residents' time commitment			
Amount of your own time you have to give up to ensure your views are heard.	-0.05 (0.01)	0.001	-0.29, -0.1
Likelihood ratio	165.70	Prob > chi2	0.00
Pseudo R ²	0.3	Number of observations	6584

The likelihood-ratio test for the significance of the standard deviations and the corresponding p-value is small (0.00) thus rejecting the assumption that all standard deviations are equal to zero. This demonstrates that there is statistically significant preference heterogeneity for all the attributes.

The coefficients all have the theoretically expected sign and reveal that respondents prefer: giving up less time; having the opportunity to participate; decision making processes being explained (with their views being considered); knowing their neighbours; having help and support from stakeholders and being informed of the urban regeneration programme.

Please see Section 7.6 for details of the methods used here to present results. The model shows that 17% of respondents preferred having the opportunity to participate regularly compared to never having the opportunity to participate, whilst for 30% participating 'sometimes' was preferred to never having the opportunity to participate. A total of 18% respondents preferred having fully explained decision making processes and clear evidence of consideration of their views in these processes in comparison to the reference level of unexplained processes and no consideration of their views being evident. For 25% of the sample, knowing neighbours well and feeling a valued part of the community was preferred to not knowing neighbours and not feeling valued as a member of the community. Compared to having no support or help, 8% of respondents valued the availability of help and support. Lastly, Table 8.1 illustrates that being at least somewhat informed about the regeneration programme was preferred for a total of 14% of respondents relative to the reference level of being uninformed.

Attributes other than 'Trust' and 'Resources' showed large increases in preferences between the lowest (worst) level and the first level of 'improvement' with only incremental gains were shown for the subsequent levels. A clear example of this is demonstrated by the 'inclusion' attribute. Respondents strongly preferred having the opportunity to participate sometimes yet there was little change in preference when this opportunity was increased from sometimes to 'regular'.

Preferences for the trust levels however revealed a different pattern, being linear from the lowest level (none) to some being equivalent to the shift from 'some' to 'fully explained', however the shift from none to some was not statistically significant. For the attribute levels within 'Resources' there was a small and insignificant preference for a change from none to some but a much larger and significant value for the change from none to 'yes- help and support is available' suggesting that it is full support which is valued.

8.2.1 Scaled relative preferences for CE attributes

As outlined in Section 7.6, Bech and Gyrd-Hansen (2005) suggest the re-scaling of preferences. The coefficients from the MXL model outlined in Table 8.1 were rescaled so that the least preferred attribute level became 0 and the most preferred attribute level of CE became 10. As effects coding is used and the model is interval scaled, the ratios of differences between coefficients are unaffected by this transformation. Table 8.2 shows the complete list of the rescaled attribute levels.

Table 8.2: Attribute level preferences scaled 0-10

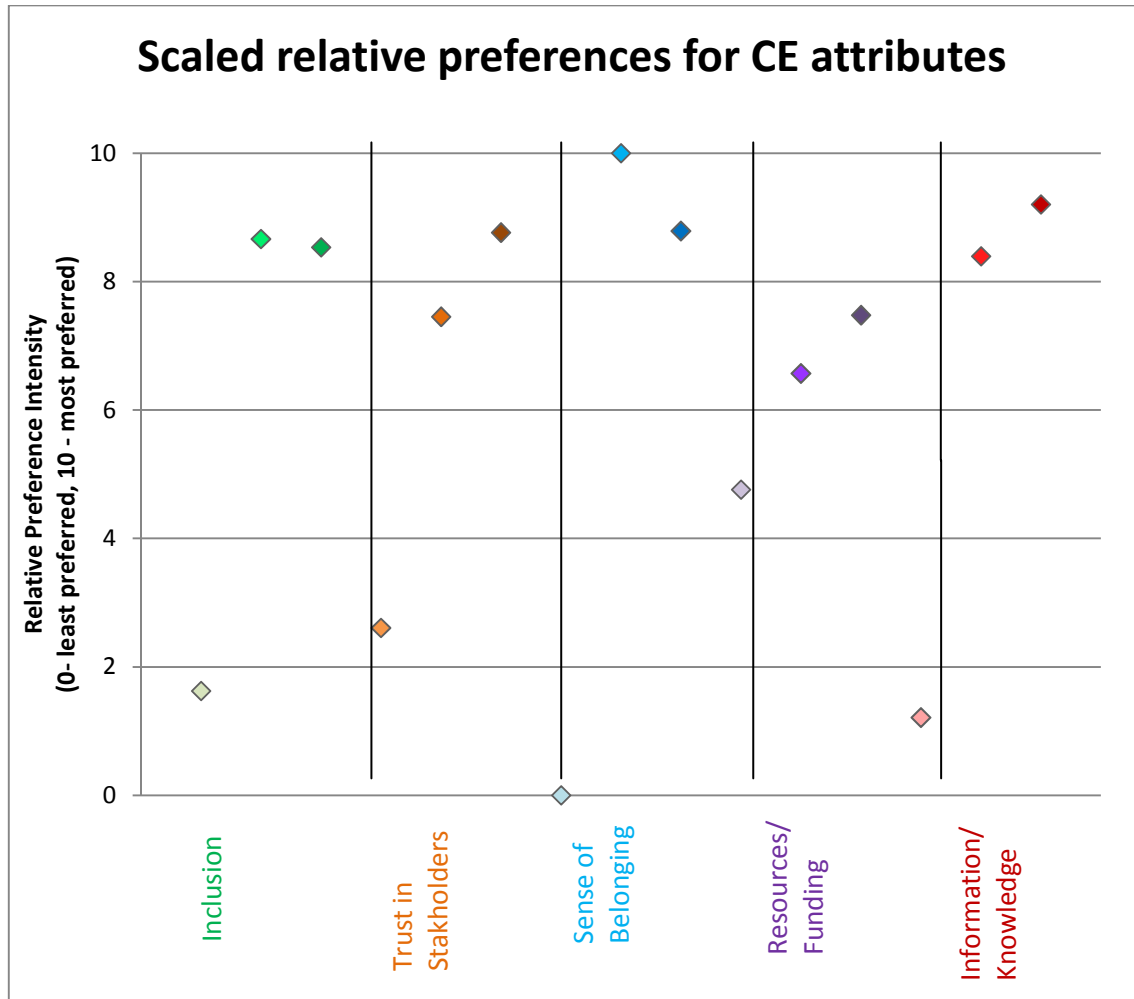
Attributes	β	Rescaled score (0-10)
Inclusion		
You never have the opportunity participate	-1.23	1.62
You have the opportunity to participate sometimes	0.63	8.66
You have the opportunity to participate regularly	0.6	8.53
Trust in Stakeholders		
Decision making processes are not explained and no consideration of your views is evident	-0.97	2.61
Some decision making is explained and some consideration of your views is evident	0.31	7.45
Decision making processes are fully explained; you can see consideration of your views in local decisions	0.66	8.76
Sense of belonging		
You do not know your neighbours and do not feel a valued member of the community	-1.66	0
You know some of your neighbours and feel a valued member in the community	0.99	10
You know all your neighbours well and feel a valued member of the community	0.67	8.79
Resources/funding		
None - there is no help or support of any kind	-0.4	4.76
Some - limited help and support is available	0.08	6.57

Yes - help and support is available	0.32	7.47
Information/knowledge		
You are not informed about the regeneration programme	- 1.34	1.21
You are somewhat informed about the regeneration programme	0.56	8.39
You are fully informed about the regeneration programme	0.78	9.20

Figure 8.1 below presents a graphical representation of the scaled preferences from Table 8.2. In relation to the other levels, the highest scored level was within the attribute 'sense of belonging'. The rescaling highlights the greater emphasis that the respondents placed on differences between the lowest (worst) and middle attribute levels, relative to the middle and highest (best) levels. The largest impact in utility is shown between not knowing any neighbours and not being valued in the community and knowing some neighbours and feeling like a valued member of the community. Respondents also demonstrated a strong preference for the opportunity to participate sometimes or regularly and for being fully informed about the regeneration programme.

Identifying respondents' relative preferences for different levels of attributes is key to interpreting results of a DCE. Figure 8.2 demonstrates that relative to their other preferences, access to resources/funding is both the least negative and the least positive CE attribute. That is, not having help and support from stakeholders is valued higher than any other baseline/reference attribute level. This also reveals that respondent utility was not as negatively impacted by the notion of a CE scenario with no support or help available as utility was impacted by the absence of the other attributes. Consequently, the other attribute baseline levels were ranked much lower. Having full stakeholder help and support however is the least valued 'best' attribute level. This rescaling indicates that suggests that resources/funding is the attribute that the respondents valued the least of all the CE attributes when considering utility impacts for all possible levels.

Figure 8.1 Scaled relative preferences for CE attributes



8.2.2 Importance Scores

Attribute importance scores are ranked in order of highest importance in Table 8.3 whilst Figure 8.2 provides a graphical illustration of the scores. Please refer to Section 7.6 for details of this method.

Table 8.3: Attribute relative importance scores

Attribute	Importance Score (%)
Sense of Belonging	30
Information/Knowledge	24
Inclusion	20
Trust in Stakeholders	18
Resources/funding	8

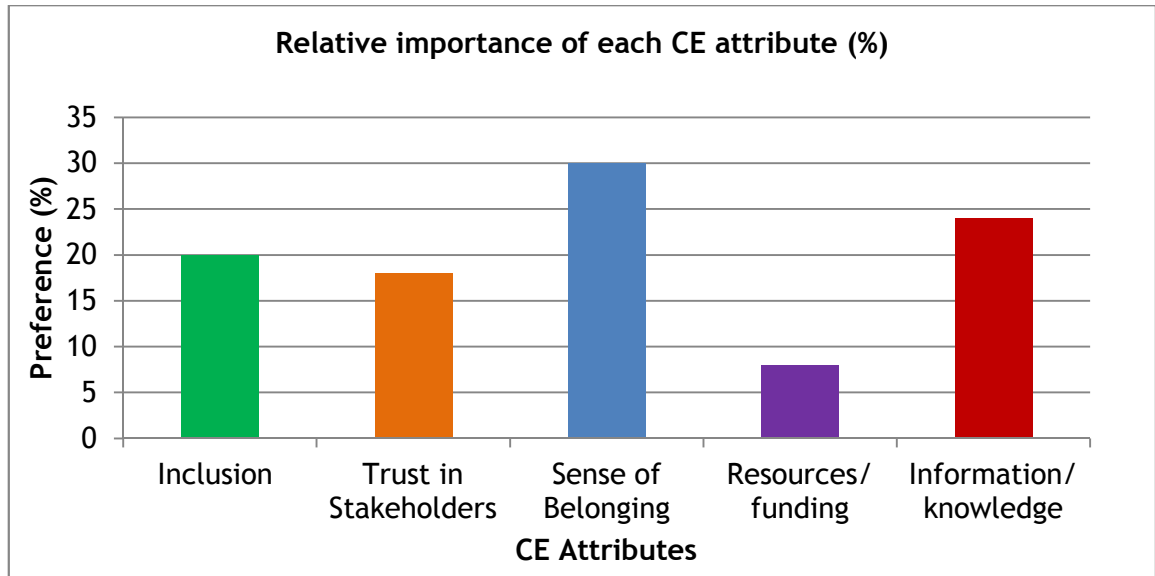
Figure 8.2: Relative importance of CE attributes

Table 8.3 and Figure 8.2 above show that the attribute ‘Sense of belonging’ is the most important CE attribute for respondents, closely followed by Information/knowledge and Inclusion. Similarly to the rescaled results presented in Section 8.2, access to resources/funding was the least important CE attribute for respondents.

8.3 Respondents willingness to give up time for CE attributes

Willingness to give up time for statistically significant ($p \leq 0.05$) attribute levels was also calculated as described in Section 7.6. These values are shown in Table 8.4.

Table 8.4: Willingness to give up time for improvements in CE attributes relative to omitted level

Attribute	Willingness to give up time/hrs	hrs/month	hrs/week
Inclusion	You have the opportunity to participate sometimes	12:36	3:09
	You have the opportunity to participate regularly	12:00	3:0
Trust in stakeholders	Decision making processes are fully explained; you can see consideration of your views in local decisions	13:12	3:18
Sense of belonging	You know some of your neighbours and feel a valued member in the community	19.48	4.52
	You know all your neighbours well and feel a valued member of the community	13:24	3:21
Resources/funding	Yes - help and support is available	6:24	1:36
Information/knowledge	You are somewhat informed about the regeneration programme	11:12	2:48
	You are fully informed about the regeneration programme	15:36	3:54

The results outlined in Table 8.4 reveal that respondents are willing to give up the greatest amount of time, 19.48 hours per month, to achieve CE scenarios where they know some of their neighbours and feel valued in the community. Resources and funding from stakeholders was the attribute for which respondents were least willing to sacrifice their time thus, reinforcing the low valuation indicated in both the relative scaling of preferences and importance scores presented previously (Sections 8.2.1 - 8.2.2). Figure 8.3 presents a visual representation of the ranking of these results.

Figure 8.3: Ranked Willingness to give up time for changes in levels of CE attributes from the reference level

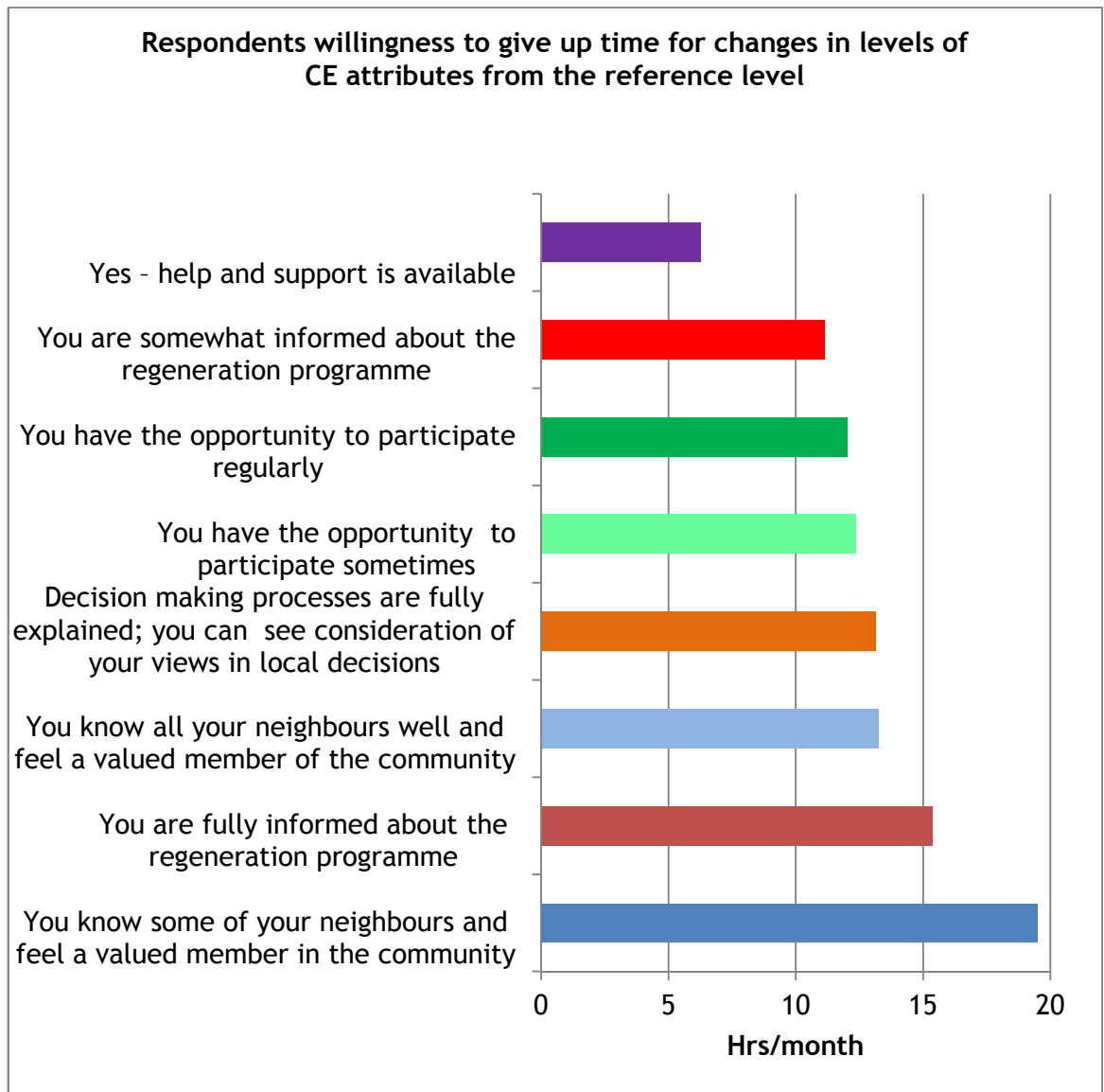


Figure 8.3 illustrates that the low valuation (relative to the other CE attributes) of resources/funding is further substantiated by respondent's unwillingness to sacrifice their time for the CE scenarios where this is prioritised. Ranking also reinforces previous observations discussed in Section 8.2.1 in the marginal increase in the preference/value exhibited by respondents between the 'worst' level and 'best' level of the CE inclusion attribute. Thereby indicating that respondents do not value highly the utility gain from 'sometimes' to 'regularly' having the opportunity to participate or knowing 'some' and 'all' neighbours.

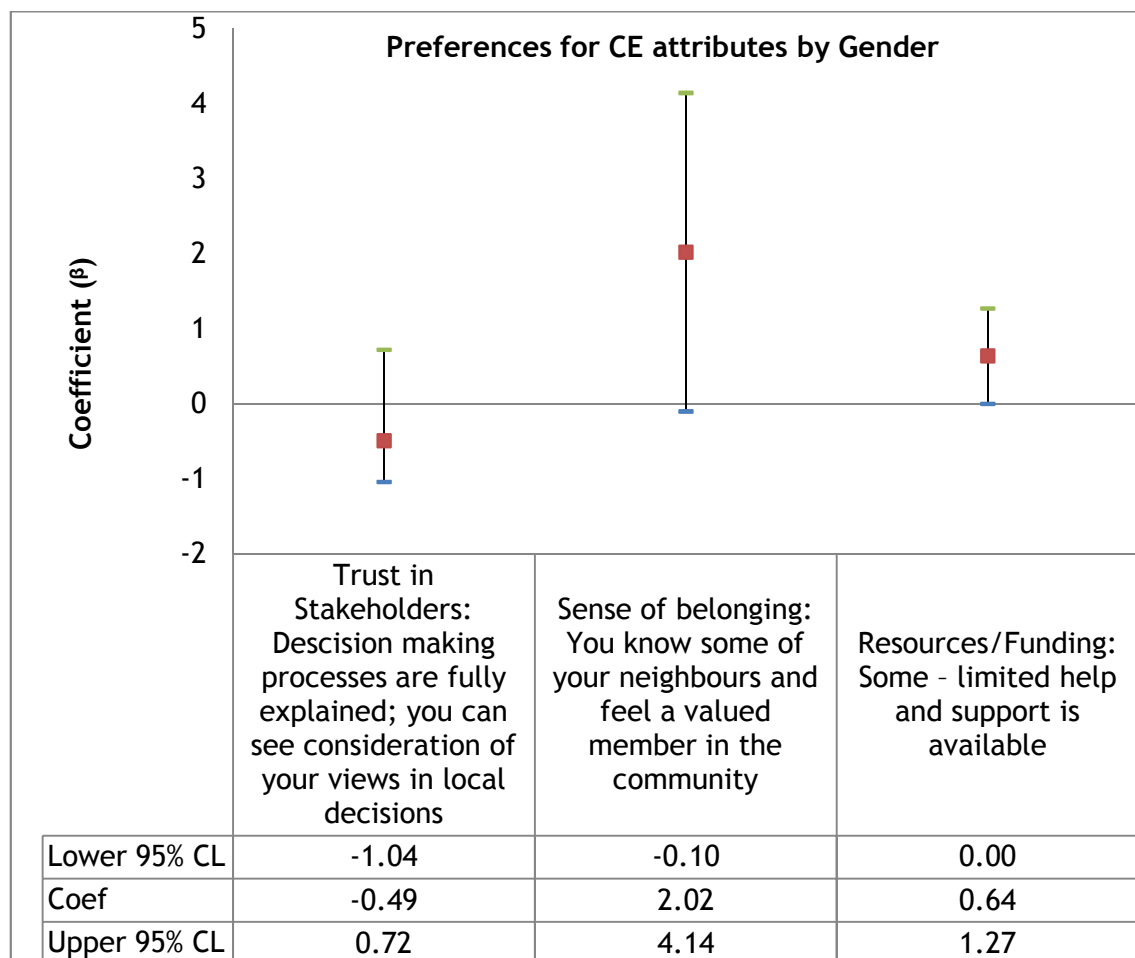
8.4 Variation in respondents' preferences for CE attributes

To examine whether preferences varied by personal characteristics MXL models with interactions were run. The full explanation of this technique is show in Section 7.6 The full models are shown in Appendix O. The following figures in Sections 8.4.1- 8.4.3 represent those interactions which were found to be statistically significant (p-value 0.05).

8.4.1. Association between Gender and CE attributes

In Figure 8.4 males are the reference/baseline level for the interactions terms thus the preferences shown here are female preferences relative to their male counterparts.

Figure 8.4 Preferences by Gender



As illustrated in Figure 8.4, few statistically significant variations between male and female respondents for different levels of CE attribute were identified. However, it is possible to highlight that male respondents value having decision making processes fully explained to them and seeing consideration of their views (relative to the reference level of no explanation or consideration) more than female respondents. In contrast, female respondents preferred knowing some of their neighbours and feeling like valued members of their community and having some support and help available to them.

8.4.2. Association between Age and CE attributes

Similar to initial analyses performed for gender, raw age data were used as a continuous variable (rather than the categorical age group variables as cross tabulations of each interaction term with the dependent variable confirmed that there were not enough observations in each cell to justify the use of age group categories in such analysis). The raw age data allowed for any overall age trends to be identified. The significant results for this model are shown in Figure 8.5.

Figure 8.5 Preference for CE attributes by age

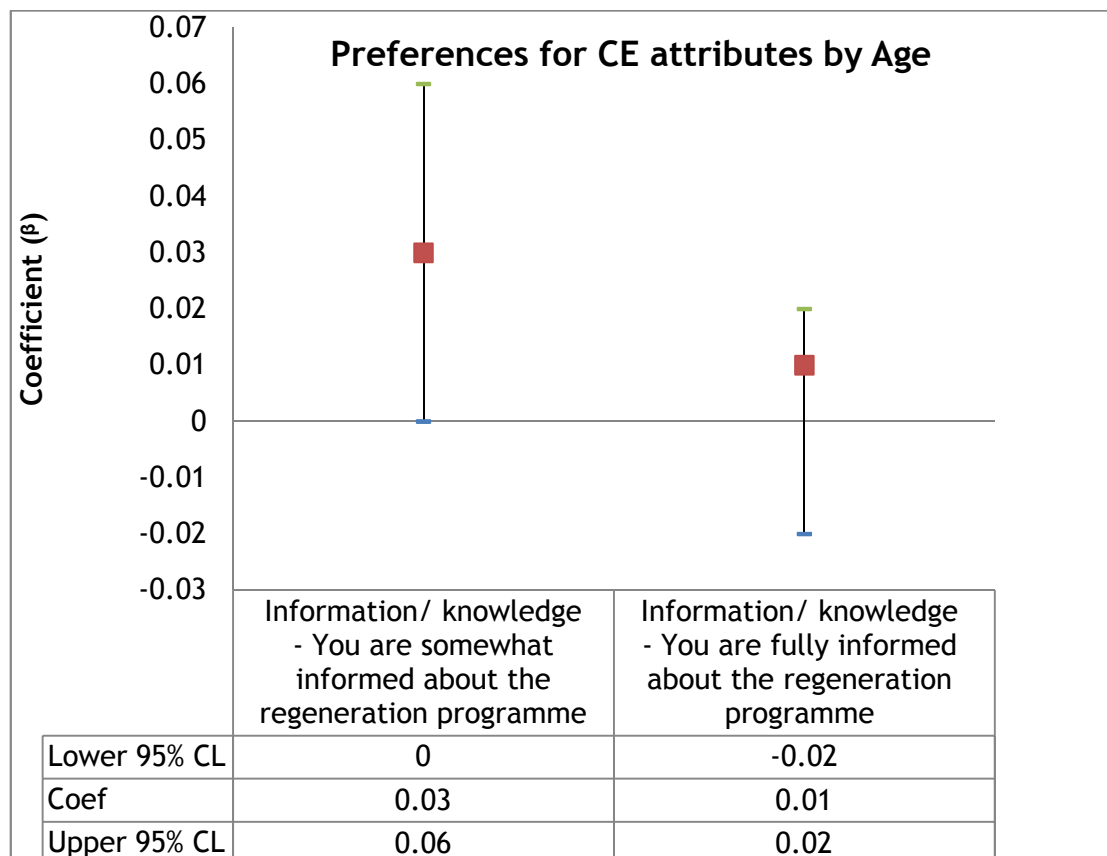


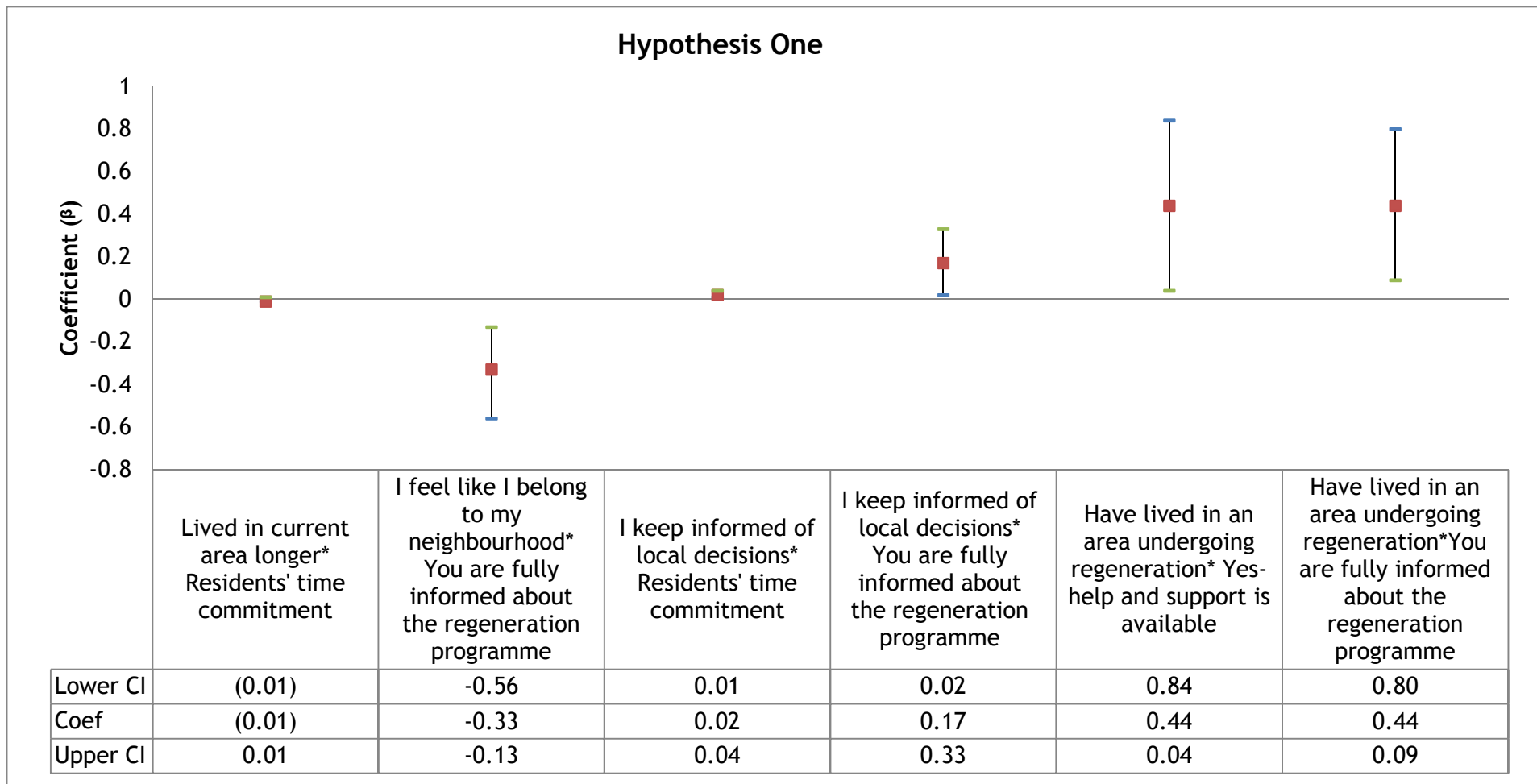
Figure 8.5 highlights that when testing for interaction terms between age and preferences for different levels of CE attributes, the only statistically significant preference is shown for feeling 'somewhat' or 'fully' informed about the regeneration programme relative to not feeling informed at all. Thus, older respondents' are more likely to value feeling informed more than younger respondents, however as shown in Figure 8.5, this is only a marginal preference.

8.4.3 Testing hypotheses

As previously outlined in Section 7.6.1, in order to test pre-determined hypotheses about respondent behaviours and characteristics and their relationship to CE, an MXL model including interaction terms was carried out and is shown in Appendix O. Socio-demographic variables were treated as continuous variables. The interaction terms identified that some socio-demographic characteristics may impact respondents preferences for CE attributes. Each hypothesis and the results of the analyses to test these hypotheses will now be looked at in turn.

***Hypothesis One:** Those who have either experienced urban regeneration, lived in the area longer, keep informed of local decisions, feel that they belong to their neighbourhood or like their neighbourhood as a place to live would give more time to CE activities, would want a stronger sense of belonging, to feel included and more informed of local activities.*

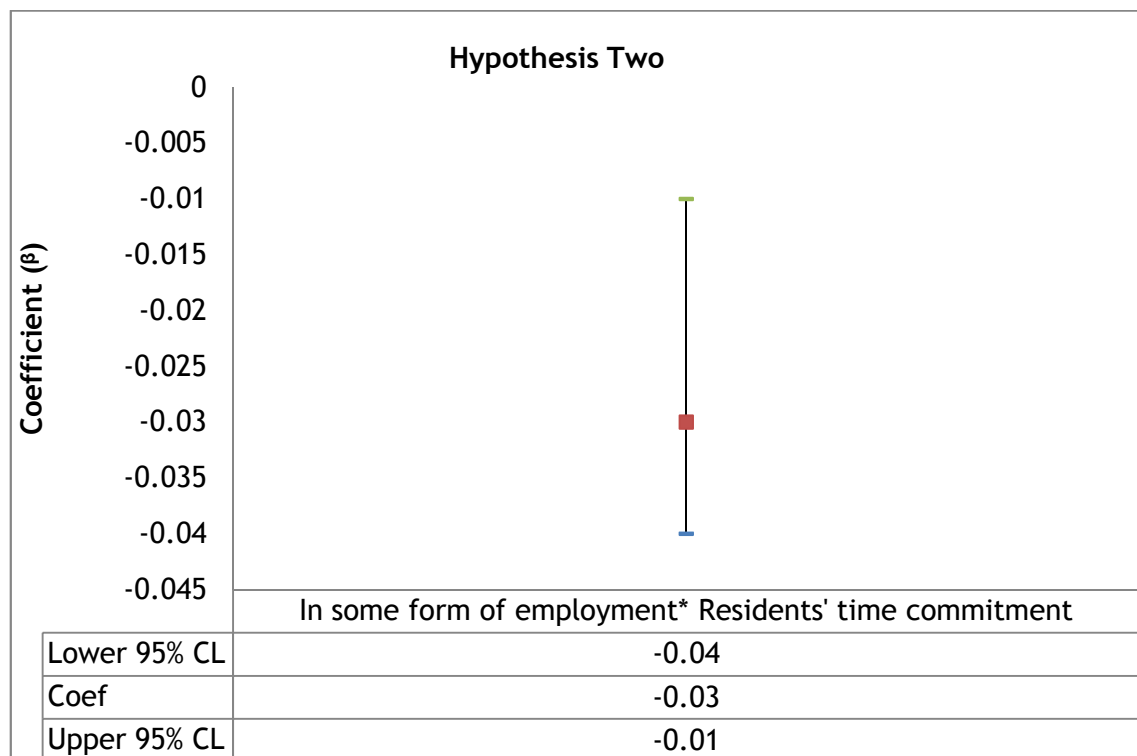
Figure 8.6: Testing Hypothesis One



As Figure 8.6 demonstrates, respondents who have lived in their current area for longer are less willing to sacrifice more of their own time to CE activities, respondents who felt they belong to their area and neighbourhood valued the utility gain from not feeling informed to feeling fully informed less than respondents with a lower sense of belonging. Respondents who felt that they were informed about their current area and strive to stay informed are more likely to sacrifice (marginally) more time for CE activities. As shown in Figure 8.6, those who felt they were more informed of local decisions show a statistically significant preference for being fully informed about the regeneration programme. Respondents who reported that they had lived in an area undergoing regeneration valued the utility shift from ‘having no help and support available’ to ‘having full help and support’ from stakeholders less than those who had not experienced regeneration. Additionally, these respondents also exhibited a weaker preference for feeling fully informed about the regeneration programme (compared to not being informed) than those who had not experienced regeneration personally.

- **Hypothesis Two:** *Those who are employed will be less likely to give up time for CE activities.*

Figure 8.7 Testing Hypothesis Two



As shown in Figure 8.7, this hypothesis is proven by the model with those who are in some form of employment or training valuing less time commitment to CE activities than those unemployed, retired or unable to work

- **Hypothesis Three:** Respondents who rate their mental wellbeing or general health better will be more likely to engage with CE activities.

Figure 8.8 Testing Hypothesis Three

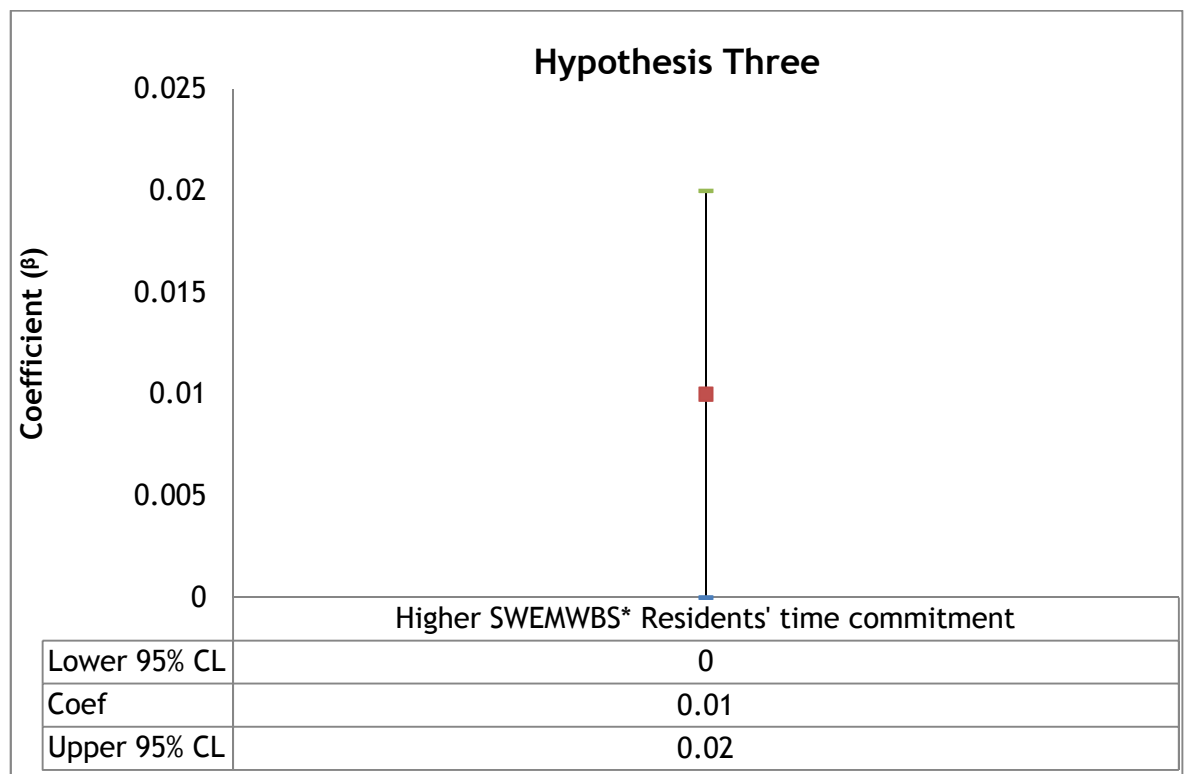


Figure 8.8 presents the strongly significant relationship (p-value 0.00) between SWEMWBS score and resident time commitment. Therefore those who reported a higher score and overall mental wellbeing would be willing to commit (marginally) more time to CE activities. However, the results also showed that respondents overall self-reported health (where they are asked to consider physical and mental health) did not have an association with preferences for CE attributes.

8.5 Discussion

The DCE results identified that when looking at the overall importance of the attributes (elements) to participants, increased 'sense of belonging' (whereby they knew some of their neighbours and felt like a valued member of the community) was the most important attribute level whilst having help and support from stakeholders in the form of 'resources/funding' was by far the least important attribute.

Closer inspection further revealed that participants valued the baseline level of 'resources/funding' the most of all the baseline levels of the attributes and had the lowest subsequent utility gain from 'no help and support' being available to 'limited' and 'yes-help and support is available'. Such results indicate that having no availability of resources/funding available was not as large a concern as the lack of the other attributes to participants. In contrast, the utility gained from the reference level of 'sense of belonging' (knowing none of their neighbours and not being valued) to knowing 'some' neighbours and 'feeling valued' was the largest. The results illustrated that, with the exception of 'resources/funding' where the utility gain to the highest level of the attribute of having 'help and support available' from 'limited help and support' was a clear increased preference, for the remaining attributes there was not the expected linear utility gain among levels. That is, despite the descriptor (of the level) clearly stating an increase in the attribute to a theoretically more desired state, this was not mirrored in the results. The potential utility gain from the reference level to the highest 'best' level was not valued highest as may have been expected. Instead in the case of 'sense of belonging' and 'inclusion', preference for the middle level exceeded the highest level. These results are of particular importance as they suggest that it is not likely 'worth' the extra allocation of resources and possible opportunity cost away from the delivery of other aspects of the urban regeneration programme to achieve the highest level of attribute.

The findings from this work suggest that stakeholders need to fully understand the communities they are working with and their existing 'capabilities' and assets before investing resources in the provision of CE element promoting activities.

For the purposes of this work based on evidence from the literature and GoWell analyses, the baseline/reference level for each attribute was taken as no current CE. This was because of evidence of high variability among experiences of CE included examples where for each of the attributes, a lack, or no provision of them was highly feasible. Furthermore, unlike uses of DCE methodology to explore preferences for the provision of healthcare treatment options (Ryan et al., 2008a), where the ‘status quo’ or baseline level is clearly defined, this is likely to be challenging with CE and the delivery of urban regeneration programmes. As shown in Chapter 5, the delivery of urban regeneration programmes (not unlike other PHIs) depends greatly on their surroundings and must ‘fit’ their context. Without understanding how communities currently feel about their existing circumstances and sense of CE, thus providing an indication of their specific ‘baseline’ CE level, stakeholders may not be able to fully gauge the need for investing in activities that aim to promote these elements of CE. The findings here provide a ‘framework’ of preferences for CE attributes yet, it will be up to decision makers to understand their community partners current capabilities and ‘mould’ these results to suit their delivery of a specific urban regeneration programme.

Respondent strongest preference for ‘sense of belonging’ could be indicative of an inherent value for social capital; having networks and connections to others. Certainly, respondents’ preference for feeling like a valued member of the community and knowing at least ‘some’ of their neighbours could be interpreted as showing a specific valuation for feelings of trust, reciprocity and cooperation with others, through feeling a part of their neighbourhood and interacting with others. This finding was also identified in a previous paper (Siegler, 2014).

The theoretical reasoning behind the use of the payment vehicle ‘residents’ time commitment’ is given in Chapter 7. For the purposes of the DCE it allows the placing of all attributes in a common unit as shown in Table 8.4 (by calculating the trade-offs between attributes and the time attribute. Placing the attributes on the common scale (time akin to the equivalent ‘monetary’ unit often reported in willingness to pay studies) provided the DCE with a tangible ‘payment’ indication upon which further work could be developed. Previous reviews and evaluations by El Ansari and Andersson (2011), INVOLVE (2005), and

Warburton et al. (2006) emphasise that attributing a monetary value or pinpointing the exact cost of participation to the community members is highly problematic and could have resulted in misinterpretation of the task through a design flaw. This thesis was keen to ensure the task was not cognitively burdensome and without knowing the exact circumstances of a participant's life it is unclear what the opportunity cost of their giving up some of their leisure time for these CE scenarios is specifically. Moreover, discussions with supervisors and individuals who work with community organisations clearly highlighted that it would be highly unusual for community members to be asked to pay for their own CE in any other form than giving up some of their time and therefore, no monetary values were stipulated. As suggested in Chapter 9, further work could be done to try and assign a monetary value to the time units elicited from this work but this is beyond the current scope of this thesis.

The DCE illustrated that respondents were willing to give up the greatest amount of their time for knowing some of their neighbours and feeling like a valued member of the community, stating nearly 20 hours per month, whilst resources/funding was the attribute they gave the lowest valuation for, just over 6 hours per month. Arguably, this provides decision makers with a clear directive; to foster CE activities that enable community members to know some of their neighbours and feel valued yet this does not need to be a large display of providing 'help and support'.

Looking at the variation among weekly time commitments for the remaining attributes (inclusion, trust in stakeholders and sense of belonging), the findings show that stakeholders and decision makers may be able to foster CE and subsequent health gains through activities that promote any one of these attributes and residents value of its provision will not vary greatly. In this case, perhaps the deciding factor should be based on two additional factors; the community's specific capabilities (as discussed previously) and the cost to the decision-maker to provide these activities. Such work could potentially be done in the form of a CBA if the activities proposed were explicitly detailed.

Additionally, the DCE examined preference variations due to socio-demographic differences. Females were shown to value knowing 'some' of their neighbours and feeling valued in the community and having 'some' support and help

available to them more than men. Men, on the other hand, valued having ‘fully explained’ decision-making processes and their views being considered. These findings begin to demonstrate the need for policy makers and decision makers to fully consider whose CE they are trying to promote and consider if different approaches are required for different genders. Participant age was only shown to have an association with the ‘information/knowledge’ attribute, whereas older participants were more likely to value this attribute higher. However, the strongest preference was not for the ‘best’ level (feeling fully informed) but was shown for the utility gain from the reference level of having ‘no’ information to having ‘some’. Again, this raises the question as to whether providing the highest level of an attribute is worth the investment? This finding would suggest that this may not always be the best use of resources but that before such decisions are taken, decision makers must ensure they know their target population.

Evidence from Chapters 2-4 led to the formation of three hypotheses. Details for these are shown in the Section 7.2.3. Similarly to the GoWell analyses conducted, participant perspectives of their neighbourhood had an impact on CE. In the DCE this was shown through preferences for attributes. Those who had lived in their current area longer were less willing to sacrifice more of their own time to CE activities and stronger sense of feeling like you belong to your area and neighbourhood led to a lower valuation for the utility gain from not feeling informed to feeling fully informed. Whilst these disprove the hypothesis that these participants would value CE attributes higher, it could be indicative of people who feel they already know their neighbourhood and are comfortable with their status and circumstances thus, may not see the need to engage with these activities.

Furthermore, respondents who felt informed about their current area and described themselves as striving to stay informed about their local area were more likely to sacrifice more time for CE activities and demonstrated a preference for being fully informed about the regeneration programme, showing that their current behaviours and practices are possible being represented by their preferences.

Having experienced urban regeneration previously was shown to impact respondents' preferences for 'information/knowledge' and 'resources/funding'. Respondents who reported that they had lived in an area undergoing regeneration valued the utility gained from having full help and support from stakeholders and for feeling fully informed about the regeneration programme less than those who had not experienced regeneration. Possibly this demonstrates that lived experiences and knowledge of the impact of regeneration either results in less prioritisation or 'fear' of the disruption urban regeneration could cause or, maybe a more cynical interpretation would suggest that these lower valuations are a result of previous bad experiences of CE. Without knowing how individuals viewed their past CE experiences it is not possible to fully understand whether this is a positive or negative perspective of the attributes. What is clear among these results of neighbourhood and housing experiences, is a person's current interaction with their neighbourhood can impact their response to, and value for, CE elements. Again this speaks to the need for stakeholders to develop an understanding of the community they are working with as this will most likely influence the success of CE promoting activities.

Hypothesis two predicted that those who are in some form of employment will be less likely to give up time for CE activities. The DCE proved this to be true. This finding lends itself to the literature reviewed in Chapter 3, where understanding of community members other commitments and the need for flexibility in the process of CE fostering activities is essential to the success of promoting CE.

Lastly, hypothesis three predicted that those who rate their general wellbeing and mental wellbeing higher would be more likely to engage with CE activities. Whilst a clear positive association was shown between higher SWEMWBS scores and residents' time commitment (better SWEMWBS score meant more time given for CE activities), this pattern was not shown for any other CE attributes nor was overall self-reported health (asking respondents to consider both their physical and mental health) associated with any CE attributes. This work mirrors the findings of the analyses conducted with the GOWELL data, where only mental wellbeing was shown to be linked to sense of empowerment. As summarised in

Section 9.2, previous literature has alluded to the potential link between PE and CE with overlapping health outcomes and the intrinsic links between the two. The DCE results do not show that all aspects of CE are linked to mental wellbeing, nor do they clarify the specific mental wellbeing health states that may be associated CE. However, the absence of a clear link between physical health and CE attributes further supports evidence gained from the GoWell data analyses (Chapter 4) that we should not expect to improved physical health to be linked to CE. However, the results do emphasise that involvement can be linked to better mental wellbeing. The causality of this link is problematic, with it being unclear as to whether better mental wellbeing leads to CE or vice versa, yet this continued trend among the findings throughout this thesis, of CE and mental wellbeing clearly being linked presents a compelling argument; that the provision of one could lead to the other and that CE is an interim outcome of urban regeneration programmes as a means to improved health.

Chapter Nine: Discussion and conclusions

9.1 Introduction

The aim of this thesis was to add to current knowledge by exploring how, through the use of economic evaluation techniques, the elements of community empowerment (CE) can be identified, measured and valued within urban regeneration programmes.

There is an increasing recognition that health gains can be achieved from multi-sectoral PHI's such as urban regeneration programmes. This is due to the unique ability of PHI's to address long-term socio-economic inequalities, deprivation and improve residents' overall QoL (Kearns et al., 2009, Marmot, 2008, Truong and Ma, 2006, Ellaway and Macintyre, 2010). Such PHI's are commonly the result of multiple sector funding and are not solely the result of health sector spending. As such, their inputs and outputs are varied, wide-ranging and often affect health indirectly, and thus often regarded as beyond the scope of traditional applications of economic evaluation techniques (Drummond et al., 2006). Policy makers are increasingly advocating the need for economic frameworks to be adopted to guide resource allocation issues across all sectors impacting on health. This has led to an acknowledgement that there is a need for further research on how best economic evaluation methodologies can be adapted to suit the challenges associated with PHI evaluations (NICE, 2012a, Wanless, 2004, Fenwick et al., 2013).

Urban regeneration programmes are complex interventions often targeting heterogeneous populations thus, generalisation of the programmes delivery, their design and evaluation is challenging. This thesis illustrated that it is possible to identify, measure and value CE as an outcome of a complex PHI thus providing some initial empirical evidence for economic evaluations of urban regeneration as a PHI. This thesis commenced with scoping the evidence on existing research on identifying, measuring and valuing CE and CE's links to health and wellbeing (Chapter 2). Following this, a systematic review with NS was conducted to understand how urban regeneration can impact on sense of CE within the specific context of urban regeneration programmes. Subsequently,

Chapter 4 outlined a secondary data analysis of an established longitudinal mixed-methods research programme (GoWell) into Glasgow's experiences of regeneration. This empirical analysis provided some validation of the findings of Chapter 3 whilst also establishing initial evidence of association, that increased CE can be linked to improved general health and mental wellbeing within an urban regeneration context. . Though the findings within Chapters 3 and 4 have limitations, which have been outlined previously and they cannot confirm causality of effect, these stages of work provided initial evidence that CE could be considered an 'interim surrogate outcome' linked to health gains and identified for the first time 'elements' of CE (Khwaja, 2005) within an urban regeneration programme.

Commencing with Chapter 5 and through the DCE outlined throughout Chapters 6-8 the thesis then progressed to demonstrate how the attributes of CE identified in Chapters 3 and 4 could be valued for inclusion in future economic evaluations of urban regeneration. The suitability of employing stated preference elicitation methodology for valuing the multi-faceted, non-health type attributes of CE was evidenced through these chapters. Through this research, this thesis is able to provide initial cost-effectiveness evidence for informing future delivery of CE promoting activities in urban regeneration programmes and illustrate the use of economic evaluation techniques to inform these recommendations.

This concluding Chapter revisits each of the original PhD research questions outlined in Chapter 1 and summarises the key findings of each. Following this, links to wider literature and context will be discussed before then highlighting the strengths and limitations of the work. Finally, opportunities for further research will be proposed alongside the anticipated policy implications of the thesis.

9.2 Revisiting the PhD research questions

9.2.1 Research Question 1: How is CE defined and measured?

1a) What evidence currently exists on its measurement and valuation?

1b) Is this evidence generalisable to an urban regeneration context?

The first research question of this study (and its sub-questions) was concerned with investigating how CE could be defined and measured within urban regeneration programmes. This thesis is uniquely placed as the first study to attempt to identify and then measure CE within urban regeneration. The concept of CE has been applied to numerous disciplines, each with their own interpretation as to what the concept entails. Indeed, as Chapter 2 illustrated, the scope of research linked to ‘empowerment’ is vast and it is often related to other concepts such as community engagement, CDD, and social capital, which can work in synergy with one another thus, understanding the context in which CE is being considered is key to progressing to measuring and valuing CE.

Chapter 2 outlined previous literature on measuring CE (Khwaja, 2005) which emphasised the importance of stipulating whether CE is being considered an outcome (an end) or a process (a means to an end). A clear motivation for the urban regeneration UK policy drive behind regarding CE as an integral component of successful delivery of urban regeneration, as outlined in Chapter 1, is the positive impact this could have on a person’s health and wellbeing (Wanless, 2004, Marmot, 2008, Popay et al., 2015). However, successful delivery of CE as an outcome of urban regeneration programmes is a desired outcome (end) in its own right. For the purpose of this thesis, CE was defined as an outcome of urban regeneration as well as an interim surrogate outcome that can be linked to health and wellbeing gains.

Furthermore, a scoping review of the very broad ranging literature across multiple disciplines in Chapter 2 highlighted existing literature by Zimmerman (1995) and Peterson and Zimmerman (2004) demonstrating that whilst PE or CE can be magnified to different contexts or levels, this should not exclude the possibility of an inter-level relationship and that, in fact, many boundaries and

separations of levels are imposed by researchers or practitioners for their own convenience. Evidence was presented, of what Zimmerman (1995) termed as, the behavioural component or ‘tenet’ of PE (individuals engaging with their local surroundings to develop relationships and social connections with others) and of PE acting as a catalyst for the development of CE (Chavis and Wandersman, 1990, Saegert and Winkel, 1996, Mok, 2005). That is, personal statements of PE or sense of personal control over personal issues were shown to be indicators of an individual’s inclination and readiness to get involved with their communities and local decision-making processes.

Through presenting and collating evidence on the measurement and valuation of CE, Chapter 2 emphasised how the complexity and context-specificity of CE necessitates that prior to measuring and valuing CE, the key ‘elements’ of CE within urban regeneration needed to be identified. Current evidence was generalisable to this thesis as it provided this research with a clear directive that any attempt to measure or value CE must take context into consideration and must be developed with context in mind. Furthermore, it highlighted that PE could be seen as an indicator of CE and that the two levels should not be considered in isolation from one another. This would help facilitate the development of an appropriate economic evaluation technique later in the thesis.

9.2.2 Research Question 2: Is there a link between CE and health?

2a) What aspects of health and wellbeing and health behaviours can be linked to CE within urban regeneration?

The second research question addressed the relationship between health and wellbeing and CE in general, and subsequently, within the specific context of urban regeneration. Chapter 2 illustrated that within the literature it was possible to evidence that a sense of empowerment can indeed be linked to health, both positively and negatively (Section 2.3). Reviews by Wallerstein (2006), Laverack (2006) and Woodall et al. (2010) presented compelling evidence of a relationship between an individual’s empowerment and the reporting of better mental wellbeing and improved health behaviours. There was a lack of

evidence regarding a link to physical wellbeing. Furthermore, the empowerment strategies evidenced throughout these reviews, highlighted how collective working and social interactions with others could be a route to improved health. Participation was shown to be intrinsically linked to CE. Indeed, further evidence of this link was shown by a NICE (2008) report on how CE, through giving communities a sense of power and influence, was a pathway to improved health. Furthermore, drawing on studies by Dargan (2009) and the RSE's 2014 advice paper to the Scottish Government on 'Community Empowerment and Capacity Building', the chapter demonstrates how, despite the positive health gains mentioned in existing reviews, within urban regeneration contexts there could be possible negative impacts. In particular, it is important to highlight that CE strategies and attempts at CE promoting activities can result in disagreement, fracturing of opinions and, if not all views within a community are considered, could produce negative health impacts such as feelings of injustice and loss of sense of control or awareness. The chapter emphasises how the positive health links and success of empowerment strategies is reliant on the way they are developed and as shown in Section 2.2, CE is complex and context sensitive (Khawaja, 2005)

Yet, despite this compelling argument for CE to be interpreted as an intermediate outcome as a means to better health and wellbeing, there was a need to acknowledge the limitations of these three reviews (Chapter 2) and the absence of evidence of this CE and health link within an urban regeneration context. To address this, Chapter 4 presented empirical analyses to test whether health and wellbeing had a relationship with CE within urban regeneration using 2011 data from 15 neighbourhoods throughout Glasgow.

The findings of Chapter 4 support the theory that within an urban regeneration context, health gains could be sought from CE. The evidence of both SWEMWBS and SF-12 scores being positively impacted by empowerment clearly demonstrated that overall general health and mental wellbeing were associated with empowerment. Further, higher levels of empowerment are associated with better mental wellbeing and health. Additionally, those who felt more empowered (have some influence over local decisions) had higher scores in several items of the WEMWBS scale. Previously there had been no clear

evidence of health being directly influenced by empowerment in the urban regeneration setting. The lack of evidence that physical health is linked with empowerment (both PE and CE), supports prior research by Wallerstein (2006) and Woodall, Raine et al. (2010) as discussed in Chapter 2. In these reviews, physical health was impacted by CE once a community felt empowered and actively took part in the delivery of local services (such as local leisure classes) thus indicating that possibly, once mental health gains have been sought they could act as precursors to physical ones. Moreover, Chapter 4 showed an association between whether a participant had a long-term illness or disability and sense of empowerment whereby those who did not suffer from a long-term illness felt more empowered. Previous work by Curl and Kearns (2015) and Trevisan et al. (2014) has demonstrated that people who are ill or disabled often report increasing levels of financial difficulties and experience psychological impacts from these concerns such as lower self-worth and are less willing to interact with others. Such isolation and possible knock-on (mental wellbeing) effects of the inhibitors caused by their disability, further highlights the potential positive impact of empowerment (PE or CE) on mental wellbeing.

This study provides additional evidence to the field however; the study was unable to confirm clear causality or direction of effect. It draws only on cross-sectional data and as previously outlined in section 4.5 has limitations such as self-section bias and risk of multiplicity. Whilst acknowledging that these results are subject to limitations they do suggest that successful CE activities within urban regeneration programmes could lead to additional health gains. As such, this research provided an indication that, in answer to Research questions 2 and 2a, there is an association between CE and health and, more specifically, within an urban regeneration context, aspects of mental health and general health can be linked to CE.

9.2.3 Research Question 3: Can urban regeneration lead to a sense of empowerment?

3a) What are the main elements of CE in the specific context of urban regeneration?

A key objective of the thesis was to identify key elements of CE within an urban regeneration context. Developing recommendations by Khwaja (2005) on measuring empowerment and the importance of identifying CE elements suited to a specific context (such as urban regeneration), prior to any attempt to measure CE as an outcome of regeneration programmes, a systematic review with NS was undertaken (Chapter 3). This was the first systematic review with narrative synthesis on urban regeneration and empowerment.

Directly addressing Research questions 3 and 3a, the review identified that it is possible for urban regeneration to lead to a sense of empowerment and also identified potential key elements of CE. These CE elements are;

- A sense of *inclusion* and opportunity to participate in decision-making processes;
- Stakeholders acknowledging the *time commitments* expected of residents and thus seeking flexible partnerships;
- A sense of *belonging* to the community and area;
- A sense of *trust* in stakeholders and the knowledge that there is transparency in the decision processes and that their views, existing networks and connections are valued;
- Stakeholders offering *funding and support* to help communities (capability building);
- *Information* and awareness about decisions regarding the regeneration programme.

Despite limitations due to included study quality which affects the overall review robustness (See Section 3.7.4), the review is able to identify some key elements of CE within an urban regeneration context. Furthermore, it provided some initial evidence of what has affected the impact of urban regeneration on CE. This provided important insight and contextual information for the development of the DCE. Should communities fail to trust decision makers, feel that since decision makers have not sought to create equal partnerships, or taken into consideration other commitments on their time, they would be less likely to engage with the urban regeneration process. This may influence residents decision to participate or engage in any number of actions delivered within the urban regeneration process (and their empowering benefits). The review also highlighted that non-participation should not be viewed as 'disempowering' and residents may actively choose not to partake in any

decision-making activities. Furthermore, the review highlighted that urban regeneration's impact on empowerment, if any, could be either negative or positive.

Within both Chapters 2 and 3, a common theme was identified when discussing CE, namely 'participation'. There appears to be general consensus that at the core of any research wishing to investigate CE, there must be a willingness of individuals to get involved in local activities and issues. Therefore, participation may be a means to sense of empowerment and the sense of control it may foster.. This notion of 'participation' was an undercurrent emerging from the research surrounding 'empowerment' generally (Chapter 2) and was also evidenced from the systematic review with NS. There appeared to be an assumption that it is impossible for CE promoting activities to be fully successful if the individual, and member of a community, does not want to participate. Members of the community must be willing to give up their time.

Additionally, the review illustrated that formal attempts to quantify and measure CE were not evident and the majority of pertinent literature found was qualitative. As such, the gap of current work in this field was further highlighted. Now that possible CE elements within an urban regeneration context had been identified, it was necessary to explore how these elements could be measured and valued.

9.2.4 Research Question 4: Can economic evaluation techniques be used to measure and value CE as an outcome of urban regeneration programmes?

4a) If so, what elements of CE can be measured and valued?

Having established an evidence base of the key elements of CE within an urban regeneration context, and showing health gains can be linked to CE as part of a regeneration programme, the next step was to establish trade-offs between these CE elements as a means to estimate their contribution to CE 'utility function', quantify the trade-offs between attributes and ultimately value them on a common scale (using time as the payment vehicle). As shown in Chapter 5, this work was informed by the evolving literature within the health economics field on the 'economics of population health'. More specifically, the challenges

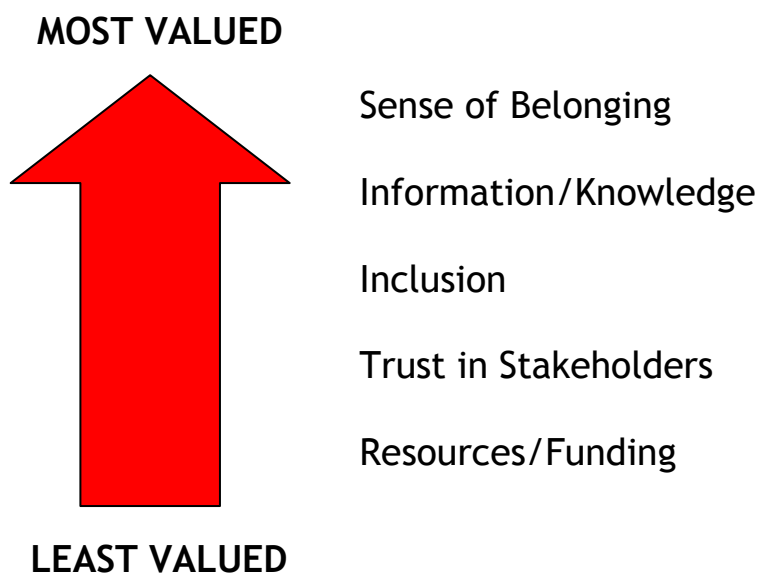
associated with the application of economic evaluation techniques to evidencing the (cost) effectiveness of, and decision-making for, PHIs.

As reviewed previously by Edwards et al. (2013), guidance on the economic evaluation of PHIs, has demonstrated a need for economists to think ‘multidisciplinary’, acknowledging the merits of outcome measures such as QALYs yet be open to other techniques such as those founded in behavioural or capability theory thus “measuring health outcomes as part of the full range of outcomes, rather than trying to stretch the ‘medical model’” (2013:12). As Chapters 2 - 4 ascertained, CE as an outcome of urban regeneration programmes can also be regarded as an interim outcome associated to health gains. It is not a direct health outcome. The evidence collated did not explicitly pinpoint the health states to which CE elements can be directly linked, but rather gave an overall indication of the positive link between health and CE within urban regeneration programmes. Furthermore, the lack of existing literature on the evidence of the relative importance of CE elements and societal preferences for these elements meant it was necessary to firstly explore methodology which suited valuation of this non-health outcome.

Following an overview of economic evaluation methodology (Chapter 5) and existing economic evaluations conducted of urban regeneration programmes, for the purpose of this thesis, the use of the stated preference technique DCE was identified as suitable for the ensuing task of valuing CE in an urban regeneration context (Chapter 6). Drawing on guidance and expertise from the literature and a methodology course attended at LSHTM, a DCE was designed and conducted as a general population survey to elicit preferences for utility gained from each of the CE elements (referred to as ‘attributes’ within DCE methodology). The purpose of this general population DCE survey was to recreate a realistic (hypothetical) setting (marketplace) for the fostering of CE elements as part of an urban regeneration programme to identify trade-offs between these features. The full methods undertaken (and how they draw on findings from Chapters 2-4) and guidance sought from professionals are outlined in Chapter 7. This was the first application of DCE methodology to the measurement and valuation of CE as an outcome of urban regeneration programmes.

The DCE identified that when looking at the overall importance of the CE attributes (elements) to participants, increased ‘sense of belonging’ was the most important attribute whilst having ‘help and support’ from stakeholders in the form of ‘resources/funding’ was by far the least important attribute. Figure 9.1 illustrates the ranking order of overall attribute preference identified by the DCE.

Figure 9.1 Attribute ranking order



Furthermore, the DCE was able to identify UK general population preferences for each of the attribute levels (significant p-value ≤ 0.05) and with the use of ‘time commitment’ as an appropriate payment vehicle, determine participants’ ‘willingness to give up time’ as a value ‘proxy’ for gains from the attribute levels. These are shown in descending order in Table 9.1 below.

Table 9.1 Willingness to give up time for CE attribute levels

CE attribute level	Hrs/month	Hrs/week
You know some of your neighbours and feel a valued member in the community	19:48	4:52
You are fully informed about the regeneration programme	15:36	3:54
You know all your neighbours well and feel a valued member of the community	13:24	3:21
Decision making processes are fully explained; you can see consideration of your views in local decisions	13:12	3:18
You have the opportunity to participate sometimes	12:36	3:09
You have the opportunity to participate regularly	12:00	3:00
You are somewhat informed about the regeneration programme	11:12	2:48
Yes - help and support is available	6:24	1:36

Table 9.1 highlights that the value (in terms of time) for all attributes. Knowing ‘some’ neighbours was not only valued higher than knowing ‘all’ neighbours but was valued higher than any other attribute level, with having ‘help and support’ the least valued attribute level. Again, the results illustrate that the highest or ‘best’ attribute level was not always the preferred level. For ‘sense of belonging’, participants were willing to give up 6 hours 24 minutes more for knowing ‘some’ neighbours than for knowing ‘all’ neighbours. In both circumstances they would feel ‘a valued member of the community’. The DCE was able to outline that for the most valued and preferred support of CE within an urban regeneration programme, policy makers and stakeholders should seek to invest in CE activities that first and foremost, increase residents sense of belonging and allow them to feel ‘fully informed about the regeneration programme’. By investing in activities that support the most preferred and valued attributes, this ought to produce the most successful and cost-effective investment in CE promotion within urban regeneration programmes.

The DCE results raise policy-relevant questions relating to stakeholders having to consider whether investing in providing the ‘best’ level of the 5 CE elements is the optimal use of resources. With participants stating a higher value for some ‘middle’ attribute levels (sense of belonging, inclusion) than for the additional ‘best’ (highest) attribute level, stakeholders will need to consider whether the incremental investment to provide this ‘higher’ level represents the best return on investment. The opportunity cost of not investing in another aspect of the UR

programme will need to be considered. Some of these concerns may be best mitigated through stakeholders establishing the current (baseline) level of CE elements within communities prior to investment. For the DCE, it was important that the results were as generalisable as possible and thus, no CE present was taken as the baseline (status quo). As shown in Chapter 3, CE is context specific and evidence has shown that ‘no CE’ is a plausible status quo. However, the status quo of CE (and each of the CE elements) between neighbourhoods may be highly variable. Gaining understanding and knowledge about the community and its current experiences may help determine the status quo and facilitate decisions related to the worthwhileness of investment for a particular CE element and the level of that investment.

Chapters 5 to 8 addressed Research question 4 and show that it is possible to measure and value CE as an outcome of urban regeneration programmes using economic evaluation techniques. The thesis applied DCE methodology. Moreover, in answer to Research question 4a (if so, what elements of CE can be measured and valued), by building on the results of Chapters 3 and 4, the thesis was able to measure and value the following CE elements with the use of ‘residents time commitment’ as an appropriate payment vehicle:

- Sense of Belonging;
- Information/Knowledge;
- Resources/Funding;
- Inclusion;
- Trust in Stakeholders.

9.3 Interpreting the PhD findings in the wider literature

9.3.1 CE and health in urban regeneration

As Chapter 1 outlined, CE within urban regeneration is a policy directive being implemented in local areas both internationally and across the UK in a number of different ways. However, this way of thinking and working is not in isolation nor is it unique to urban regeneration programmes (GCPH, 2012, Chanan, 2009). CE, the recognised importance of communities having autonomy and control over decisions affecting their daily lives is now considered by general consensus necessary for all agencies and public services (Chanan, 2009). This thesis has

demonstrated that investing in activities to foster CE could provide an innovative and potentially cost-effective way to improve UK health. In Chapters 2 and 4, the thesis has provided evidence of association on how CE can be conceptualised as an interim surrogate outcome towards general health and mental wellbeing gains within urban regeneration programmes.

As presented in Chapter 2, reviews by Woodall et al. (2010), Wallerstein (2006) and Laverack (2006) have highlighted that empowerment can lead to improvements in an individual's health such as improved self-efficacy and self-esteem, greater sense of control, increased knowledge and awareness, behaviour change (in regards to their health) and lastly, an improved sense of community allowing individuals to engage with others and achieve their 'health goals'. However, Chapter 2 further illustrated the context-specificity of empowerment and how the concept has been used in a diverse range of disciplines and subsequently interpretations have been varied, and that it is not appropriate to assume that empowerment in one context, albeit at the community (CE) or individual (PE) level, will have the same impact when in another context (Rissel, 1994, Hur, 2006, Khwaja, 2005).

In Chapter 4, the thesis examined whether the link to health and wellbeing shown in the wider literature was also shown within an urban regeneration context and if CE could be identified as an intermediate outcome linked to health gains. Analyses were conducted using 2011 data from 15 neighbourhoods throughout Glasgow whereby all participants had experienced and lived through varying forms of regeneration (Egan et al., 2010). This study was conducted in some of the most deprived neighbourhoods nationally, and thus, perhaps, this possible source of empowerment from such initiatives as the Housing Charter are due to residents' experience of relatively few situations in which they feel that their views are considered and they are treated with respect and viewed as valued citizens. Urban regeneration programmes have the potential to significantly disrupt and change (for better and worse) residents' everyday lives. Previous literature has shown the importance of sense of place and how an individual's identity can often be strongly linked to their geographical surroundings (Kearns et al., 2009). As Kearns et al. (2012) has stated, neighbourhoods are psychosocial environments that can impact a person's

wellbeing, their status and social position thus potentially altering their commitment to an area.

The findings from these analyses illustrated that within an urban regeneration context, health gains could be associated to CE. In current evidence there has been no definitive evidence of health being directly influenced by CE in the urban regeneration setting. The analyses of both SWEMWBS and SF-12 scales demonstrated that overall general health and mental wellbeing were associated with CE, whereby higher levels of CE are associated with better mental wellbeing and health. Additionally, those who felt more empowered (have some influence over local decisions) recorded significant improvements in several items of the WEMWBS scale. The lack of evidence that physical health is linked with empowerment (both PE and CE), supports prior research by Wallerstein (2006) and Woodall et al. (2010) as discussed in Chapter 2. In these reviews, physical health was impacted by CE once a community felt empowered and actively took part in the delivery of local services (such as local leisure classes) thus indicating that possibly, once mental health gains have been sought they could act as precursors to physical ones. This suggests that potentially, aspects of mental health that have been linked to PE such as self-efficacy, and positive coping behaviours (also captured on the WEMWBS scale), could in turn confer an ability to improve physical health. Moreover, our observations showed a positive association between whether a participant had a long-term illness or disability and their sense of empowerment; those who did not suffer from a long-term illness felt more empowered. Previous work by Curl and Kearns (2015) and Trevisan et al. (2014) have demonstrated that the ill and disabled often report increased levels of financial difficulties and experience psychological impacts from these concerns such as lower self-worth and being less willing to interact with others. Such isolation and the possible knock-on (mental wellbeing) effects of the inhibitors caused by their disability, further highlight the potential positive impact of empowerment (PE or CE) on mental wellbeing.

The findings shown in Chapter 4 are consistent with those presented by Woodall et al. (2010), Wallerstein (2006) and Laverack (2006), highlighting that empowerment programmes or interventions may produce specific health improvements for individuals. The thesis demonstrates that successful

facilitation or fostering of CE through CE activities as part of an urban regeneration programme could contribute to some health gains often sought from PHIs. As such, this thesis expands the evidence base on the link between CE and health and illustrates that investment on supporting CE (as an intermediate outcome) within urban regeneration could be a pathway future health gains. However, as previously outlined in Section 4.5, the analysis conducted was unable to confirm causality or direction of effect between empowerment and health thus, whilst adding further evidence to the research area, there is more research needed as will be highlighted in Section 9.5.

9.3.2 Identifying, measuring and valuing CE as an outcome of urban regeneration programmes

As Laverack and Wallerstein (2001) highlighted in their work on the need for acceptable and suitable methodologies for the measurement of CE, in order to produce a meaningful and insightful measure, the context and setting in which stakeholders are hoping to promote and evaluate CE must be clearly understood. As Khwaja (2005) stipulates, when trying to measure empowerment at the community level, there is a need for measures and elements of CE to be context specific.

“I do not propose to offer a laundry list of potential measures applicable in all circumstances; such an exercise is almost futile, as good measures are likely to be context-dependent” (Khwaja, 2005:267).

The thesis took this work by Khwaja (2005) as a key starting point for conceptualising CE as an outcome of urban regeneration. In Chapter 3, through conducting a systematic review with narrative synthesis, the thesis was able to clearly identify (across the heterogeneous evidence base) that urban regeneration can lead to a sense of empowerment and specific CE elements in this context. This was the first review to identify CE elements within an urban regeneration context. In Chapter 4, through analyses of cohort survey data as part of the ongoing GoWell research programme, CE elements were further validated. Lastly, Chapters 5 to 8 demonstrated how economic evaluation

techniques could be sensitively adapted to measure a non-health outcome of PHIs such as CE through the use of DCE methodology.

DCE results of this thesis are consistent with previous studies that have indicated that CE promoting activities need to be more collaborative and go beyond just providing opportunities for engagement (Adamson and Bromiley, 2008, Dodds, 2016, Popay et al., 2015).

“Too many evaluations in the past have assumed that empowerment has been achieved and have gone straight to the measurement of outcomes. Such evaluations, however, without the measurement of what empowerment, if any, has been achieved, do not provide a true test of the impact of community empowerment on health-related outcomes and may be one reason why evaluative research on CE in health-related decision-making has failed to provide definitive answers on impacts. Determining whether or not community empowerment has been achieved by the interventions under study requires the development of better measures of community empowerment/control and influence, and ways of measuring the costs and benefits of CE to enable economic evaluation. The measures available in the secondary data that were available to us were relatively crude and underdeveloped, and revealed an obvious research gap that needs to be filled” (Popay et al., 2015:105).

The findings within this thesis support, and expand upon these arguments. The DCE identifies that participation opportunities (‘inclusion’ CE element) are an important and *valued* CE element within an urban regeneration context but it also clarifies that this element of CE was less preferable than ‘sense of belonging’ and ‘information/knowledge’. The DCE demonstrates communities do value other means of CE supporting activities. It also provides a methodology that the recent evaluation by Popay et al. (2015) states is currently missing from the research base by presenting a comprehensive account of how CE can be

identified, measured and valued. This approach can be incorporated into future economic evaluations of urban regeneration programmes.

Dodds (2016) states that approaches to promote a community's capacity, skills, and awareness are "increasingly being described in the language of 'assets' (2016:43). As Morgan and Ziglio (2007) and Morgan and Hernan (2013) outline, an asset approach seeks to promote health and wellbeing by supporting individuals, communities and groups as they gain skills, competencies and develop their capabilities and capacities. At their heart, both CE and assets approaches are concerned with communities taking more control over their lives and local issues, and encourage social connections with others. Additionally, a key motivation for taking these approaches concerns the health benefits that result from non-health care investment and public health interventions (Morgan and Ziglio, 2007, Popay et al., 2015). By encouraging communities and stakeholders to identify community 'assets' and 'capabilities', and how best these can encouraged and mobilised for positive outcomes, many underpinning values and attitudes are shared with the definition of CE within today's UK policy.

As Foot (2012) clearly outlines in 'What makes us healthy?', measuring assets and their impact on health and wellbeing requires methodologies that are inherently sensitive to the complexities and context-specific nature of the interventions. This thesis presents a complete study, specifically tailored to identifying, measuring and valuing a complex concept (CE) within a complex context (urban regeneration). Researchers such as Thomson et al. (2004) have highlighted the challenges of evaluating community interventions and their social and health impact. With the increasing need for public spending decisions to be guided by evidence and economic evaluations that demonstrate the 'worthwhileness' of the investment in question, stated preference methodologies present an alternative way forward that could be adapted to offer valuable insights for an asset based approach (Fenwick et al., 2013, Tyler et al., 2010, Fujiwara and Campbell, 2011). However, perhaps more pertinent to this thesis is the possibility for this PhD study to be furthered by an asset mapping approach. Thus far, a value for the benefits of fostering CE elements within urban regeneration have been elicited, however the costs of achieving these elements are unknown. The results of the DCE and the willingness to give

up time values are relative to a 'no sense of CE' status-quo (baseline) level (with no CE element being present). Therefore, investment in activities which foster each of the CE elements would require an explicit understanding of the current sense of CE (and CE elements) within the target community. Development of an evaluation framework which incorporated asset mapping and identified current community capabilities and sense of CE could provide a stakeholder with a context specific understanding of the communities affected by the urban regeneration programme and mitigate unnecessary spending on activities for fostering CE elements that the community feels they already have (for example, they may feel that they have a strong sense of belonging). This would enable future cost-effective investment on CE fostering activities.

The concept of CE is not completely unknown within the health economics field. The late health economist, Gavin Mooney in his own words, attempted to 'challenge' health economics through the creation of a 'new paradigm' in the field and the need for resource allocation decisions on healthcare to look beyond solely maximising health gains to also include aspects of the community and 'communitarianism' into the decision-making process thereby incorporating considerations of social equity (Mooney, 2009, Mooney et al., 2002, Wiseman, 1998). He questioned whether the use of individual values to determine priority-setting and delivery of healthcare ultimately fails to address the new wave of public health and the potential of investment in society-wide social determinants of health. Arguing that individuals (as recipients' of interventions) are part of a wider social setting and that failure to consider or incorporate the interpersonal effects of how individuals view themselves as part of society, does not allow for a true representation of individual utilities and preferences used within economic evaluations (Mooney et al., 2002). In brief, he suggests that resource allocation decision-making should be based on community values. As Wiseman states, Mooney's "claims are essentially 'reasons' supported by a notion of duty, why one group should be allocated more resources than another" (Wiseman, 2014:253). Due to the finite nature of resources available to society, it should be the society themselves that determines the priority in healthcare delivery (Mooney et al., 2002, Mooney, 2009).

Whilst this thesis only briefly looks at the challenge of considering equity in evaluations (Chapter 5), this ‘new paradigm’ advocates a move away from individual welfare to the perspective of the individual as a community citizen who is concerned with wellbeing beyond their own and can consider that of others (Sen, 1985, Mooney, 2009). As Wiseman (2014) highlights, economists have existing rules that attempt to identify optimum utility gains for the majority from interventions with measures that aggregate individual utilities to create an overall social preference. In contrast, Mooney suggests that communities themselves have the compassion to outline the relative ‘weight’ (importance) of resources and their distribution to different groups in society (Mooney, 2009). This became known as ‘vertical equity’; “the unequal but equitable treatment of unequals” (Wiseman, 2014:235) and a means for combining community and equity.

Eliciting and using community preferences is of particular interest for this thesis and its focus on the identification, measuring and valuation of CE in an urban regeneration context. As Chapters 2 and 3 of the thesis identified, CE is a more complex and social construct than an aggregation of PE and its health implications, although methodologically this has not previously been captured in a quantifiable manner (Woodall et al., 2010). CE’s construction is influenced by its surrounding environment and context. Mooney’s work saw him incorporate methods such as citizen juries where participants were presented with hypothetical healthcare budgets to distribute among the population as they saw fit (Mooney, 2009). Such approaches were envisaged as enabling marginalised and atypical populations to evaluate their needs and gain access to staking a claim in public health issues. Mooney (2009) felt that this would be a form of empowerment and that decision-making regarding resource allocation and healthcare provision should not be done in isolation from the communities it ultimately affects. Whilst this thesis sought to examine CE and its health and wellbeing aspects, Mooney’s work demonstrates an alternative general conceptual framework and economic relevance of how the valuation of CE could be determined by citizens and address concerns of equity and looking beyond individual values (McIntyre, 2014). As discussed later in this Chapter, it was not possible to conduct a DCE with individuals undergoing urban regeneration in Glasgow despite attempts by the researcher. Instead, to provide an

understanding of whether previous experiences and familiarity of the specific context of interest (urban regeneration) influenced participant valuations for CE elements, respondents were asked to state if they had experienced regeneration previously. As already discussed, this was shown to impact the preferences of some CE attributes. This is only an initial indicator, but it highlights that, as Mooney argues, future healthcare allocation decisions and agenda perhaps require explicit involvement of affected participants. Not only may this lead to more optimal resource allocation but as evidence scoped in Chapter 2 has highlighted, this sense of control and participation in healthcare delivery decisions could lead to health improvements for the participating communities.

It is important to remember that this thesis adds to an ongoing area of interest in policy and research, CE within urban regeneration. As Popay et al., (2015) and Tyler et al., (2010) both state, there is a lack of evidence on measuring CE within this specific context. This thesis does not claim to fully address this research gap and has a number of limitations. However, by drawing on existing work on measuring empowerment (Khwaja, 2005), and conceptual ideas such as Zimmerman (1995), it shows how CE can be seen as an interim surrogate outcome which could serve as a marker for the condition of interest, in this case health gains. By valuing attributes of CE which could be further conceptualised into a measure through future testing and development, the thesis has added evidence to the field and shown an association with health. More research needs to be carried out to provide evidence of causality.

9.4 Limitations and strengths of study

9.4.1 Limitations

This thesis explored the literature and identified attributes of CE within an urban regeneration context and due to the complex nature of these programmes, the review sought to include both qualitative and quantitative literature. However, whilst the review did score the quality of the studies, following extensive discussions between CB, EM, CT and an information scientist at the University of Glasgow library, who agreed that, as the purpose of the review was to identify CE elements, rather than to test the effectiveness of various urban regeneration programmes, no studies were to be excluded based

on quality. This impacts the review's robustness. Using a specialised mixed-methods appraisal tool (MMAT), allows reviewers to consider the merits of multiple types of studies and is tailored to enable decisions regarding the quality of a wide range of study types and to consider the strengths of each (Pace et al., 2012). Furthermore, guidance on the use of mixed methods appraisals and how to conduct a successful narrative synthesis to overcome the breadth of literature was sought from attendance on an MRC course on conducting systematic reviews of complex interventions.

One limitation of the study was the decision to draw on individuals' responses and valuations of CE as the basis of the valuations for CE attributes within an urban regeneration context. However, this decision was tied to evidence from the literature explored within Chapter 2 which clearly demonstrated and presented justification for CE to be regarded as interlinked with the concept of PE. Moreover, adoption of this interpretation allowed for the research to draw from data collected as part of the extensive longitudinal study of Glasgow neighbourhoods undergoing regeneration (GoWell), who, for the purpose of their study had also drawn on this interpretation and had collected individuals' values as indicators of CE. The use of predefined questions could have seriously hindered the ability to draw on this valuable resource base but the similar outlooks and conversations with principal investigators of the programme ensured suitable analyses were conducted, adding insight for the work of this thesis. This work provided the study with further indicators of possible attributes of CE within an urban regeneration context. Furthermore, the use of individual values to provide indications for societal values and preferences is a tried and tested method within economic evaluation methodologies. A key reason behind the decision to use a DCE was the ability it provides the researcher to 'mould' the decision-making context which is presented to participants. Through the use of clear contextual information, it was possible to ease their understanding of how CE was being defined within an urban regeneration context and reduce the potential cognitive burden of the task.

As discussed in Section 4.5, the GoWell analyses had a number of limitations such as self-selection by participants, risk of multiplicity and the cross-sectional design of the study. This impacts on the studies overall conclusions and was not

able to prove causality or definitive direction of effect and rule out the possibility of alternative explanations to explain the effects shown.

The researcher tried and failed to engage with residents of GHA housing areas in Glasgow in order to identify the preferences of individuals with lived experiences of urban regeneration in order to compare these with the preferences from the general population survey and produce a more learned intuition of the decisions behind their preferences. Unfortunately, despite conversations with a GHA representative and, attendance at a local tenant meeting, the time horizon for the completion of this was beyond that of this thesis. In order to compensate for this, the main population survey included a question asking participants if they had experienced regeneration and it was possible to do further analysis that explored if this experience altered preferences.

DCE methodology uses stated preferences rather than revealed preferences. This reliance on participants stating what they would do rather than using participant actions has limitations as arguably it may not be a true representation. However, in circumstances such as those for this study, where there is not an extensive body of literature which has ready examples and case studies of CE being measured as an outcome and intermediate outcome (linked to health gains) within urban regeneration programmes, stated preferences provided a unique approach to this challenge. There was no 'market situation' to draw upon. As such, the research sought to look at stated preference methodologies which would allow the opportunity to recreate this decision-making process. With its basis in behavioural theory and long existing use in both transport and environmental economics and the rapidly evolving application to health economics to understand preferences for health care and aid informed resource allocation decisions, it was considered highly suitable for the purpose of this study. It provided a clear indication of preferences and willingness to give up time for CE attributes.

This thesis has demonstrated that the general population does indeed value CE promoting activities within the context of urban regeneration programmes. CE has also been evidenced as a possible intermediate outcome linked to positive health gains. However, how to value broader wellbeing outcomes that extend

beyond health such as CE alongside health outcomes still raises some questions unanswered by this thesis. In their recent work on trying to capture the full potential health impact of 'assisted living technologies' (ALTs), Wildman et al. (2016), suggest that for PHIs with multiple stakeholders (payers) and multiple outcomes, economic evaluations need to establish which perspective (whose costs and benefits are included in the analysis) and decision rules is to be used. As Chapter 5 showed, commonly used CUA methodology (for NICE decision making) would normally focus on QALYs within its extra-welfarist approach, whilst CBA, with its focus on allocative efficiency both across and within different sectors allows other externalities and non-health benefits to be considered and valued (Drummond et al., 2015). This is particularly relevant for PHIs such as urban regeneration, where benefits may be felt beyond the target area's population and may impact other sectors beyond health care (such as crime and education) and may have other beneficiaries (other relatives or future generations) raises the question as to whose values or benefits should be used to value the total benefit of the intervention. In this thesis, the use of societal values to provide valuations for CE within urban regeneration followed NICE guidance however this does not fully answer the questions of what society is willing to pay to improve CE, what CE promoting activity would provide best value for money or who pays? The willingness to give up time values for CE could be converted to monetary values which would allow them to be included in economic evaluations and compared to existing payer thresholds. It would allow CE to be compared to health outcomes using the same 'unit' and could provide clear directives as to the monetary value the UK general population places on CE in an urban regeneration context. However, currently the study has not identified the costs for CE-promoting activities, and this would need to be undertaken to be able to compare and what activities and investment represents best value for money and allow for the total costs and benefits to be included in future evaluations of urban regeneration programmes, establishing their true cost-effectiveness. The use of a generic monetary measure of outcome would be in keeping in guidance provided by Drummond et al. (2006) who emphasise that a well-understood commensurate measure would help alleviate challenges posed by multi-sector programmes and their inter-sectoral costs. The authors state that when evaluating PHIs, the benefits and costs per sector should be analysed and compared. Wildman et al. (2016) propose a methodology in which the use of

the same benefit measures would allow for it to be possible to apportion benefits derived from outcomes from different sectors and then apportion costs on the same proportions. The key problem with this methodology for CE and a limitation, is that CE is not a direct health outcome, and is comprised of non health attributes, thus who should pay for the costs associated with its attributes and their potential future health gains is not clear. Determining who should pay for these broader wellbeing outcomes such as CE would require a clear statement as to who the decision-maker is and whose decision rules for evaluations should be applied (Wildman et al., 2016). This thesis is limited in its ability to answer these queries, however, by providing clear evidence of the value that is placed on CE- promoting activities within urban regeneration programmes it is able to inform decision-makers. It is not a decision tool but has provided input into future economic evaluations and clear guidance on what research gaps still remains; primarily what are the costs and inputs required for CE.

9.4.2 Strengths

This thesis is the first study of its kind to draw upon economic evaluation methodology to quantitatively identify and measure elements/attributes of CE within an urban regeneration context. The research builds on existing literature and evidence of CE and its link to health and wellbeing improvement and applies this to an urban regeneration setting to demonstrate clearly that when supported within a regeneration programme, CE could lead to health gains.

The thesis also adds to literature regarding how CE is often determined by the surrounding environment. Conducting a systematic review with narrative synthesis focussing on how urban regeneration programmes can promote a sense of empowerment provided the first preliminary study of CE elements as measurable outcomes of these programmes. The mixed methods approach of the review incorporated both qualitative and quantitative studies thus ensuring that the later evaluation work was informed by all available evidence. Furthermore, the review was further supported by analyses conducted on GoWell data thus producing evidence of specific CE outcomes, filling a current gap in the evidence base. By using DCE methodology it was possible to recreate a realistic decision-making format/setting to elicit preferences for CE features. This was the first

application of DCE methodology to CE valuation (regardless of the context). By framing this in terms of being part of an urban regeneration context, this thesis provides the first case study of an approach to ensuring how future investment in CE could be more effective.

This work further informs current policy emphasis on the need for regeneration to involve communities and foster CE. No prior work has attempted to clearly define CE into a measurable outcome of PHI to provide an indication as to whether investment of resources has been successful. The methods used were a key strength of the study. The flexibility of DCE methodology and the ability to provide the participant with details of the context and ‘set the scene’ enabled CB to reduce the uncertainty around the decision-making process and how to interpret the trade-offs made. This work demonstrates the potential of the methodology for evaluating preferences of non-health outcomes of PHIs, learning from applications in environmental and transport economics and expanding DCE work done within health economics informing healthcare interventions. With the continuing growth of multi-sectoral PHIs and the call to evaluate their cost-effectiveness, there is a need for more evidence and research on how to can measure non-health outcomes which may be what impact on wellbeing, to evaluate all benefits of PHIs and their aim to address wider socio-economic inequalities. This thesis offers an in-depth example of how, from initial conception to final analyses, a complex intermediate outcome linked to health gains (and a desirable outcome in its own right) of a PHI could be quantified and measured to inform future resource allocation. Thus it is a resource for the continuation of work on tackling the challenges associated with conducting economic evaluations of PHIs.

As previously described in Section 9.4.1, the use of a non-monetary payment vehicle could be regarded as a weakness of this study. The strength of its application was that it ensured that no form of activity that a community participant may be involved with and thus, ‘sacrificing’ to take part in CE activities was unintentionally excluded. As described in Chapter 2, CE is a contextual construct and can vary depending on the context in which it is occurring. As such, how people fill their time could also vary. Residents’ time commitment as a payment vehicle provides a generalisable indicator of value

and thus, the study results have a wider appeal for decision makers and are not subject to narrowly defined caveats. It allows for decision makers to build on the results for their specific context of interest.

The thesis adds to existing literature on the link between CE and health. As stipulated in Chapter 2, previous work by Wallerstein (2006) and Woodall, et al. (2010) emphasised the evidence gap in this research area. The research presented here does not fully fill the existing gap but it provides clearly defined findings that show that within an urban regeneration context, CE has the potential to lead to mental wellbeing health gains. Analyses conducted in Chapters 4 and 8 both illustrate that CE may not be a health outcome but for a certainty can be regarded as an intermediate outcome linked to health gains within urban regeneration.

9.5 Recommendations for further research

Given that for the purpose of this study, the researcher was unable to work with individuals currently living in urban regeneration neighbourhoods and thus, had experienced delivery of existing forms of CE activities, it would be interesting to examine if valuations and preferences for CE attributes varied as a result. As shown in the UK representative sample, there was evidence that urban regeneration experience could act as an indicator for differing preferences and further investigation would be of interest. This work would also allow for the adoption of Gavin Mooney's work on communitarian claims which, in recent years, has gained increasing momentum. With the current economic downturn and cuts in public spending there is a necessity for more cost-effective spending and allocation of resources. One means to address this may be for the design of PHIs to be developed and framed round the preferences of the affected populations rather than societal preferences as commonly applied. The wide adoption of this practice would require in-depth examination of equity considerations and whether, as Mooney highlighted, acting on 'needs' as defined by the community, allowing them to set their own social choice rules, would be too challenging a task. His work refers to the allocation of health care resources, yet arguably expansion of the work started in this thesis could provide a small scale case study of how a construct so intrinsically linked to its context such as CE, and activities undertaken by stakeholders to promote it, are valued

differently when based on the preferences of the affected population and the wider general population. Such differences could be explained by concepts such as option values. The concept 'option value' refers to the value (WTP) that individuals state for preserving a public good or service (or asset) which they may not use but feel is important. This concept has been frequently used in environmental economics discussions on the value of natural resources and assets and in transport economics when estimating the value non-users place on different services being made continually available (Brookshire et al., 1983, Roson, 2000, Walsh et al., 1984, Geurs et al., 2006).

It would be interesting to do further testing on the GoWell data analysis and link the cohort to the baseline data collected in order to strengthen the associations shown in the finding presented in Chapter 4. Additionally, addressing concerns of multiplicity would strengthen the study's conclusions.

Following this work, it would be interesting to conduct a further study on what CE activities are associated with each of the CE attributes by both the stakeholders and the general population. In order for the most effective promotion of CE as an outcome of urban regeneration programmes leading to better mental wellbeing, it would be necessary to ensure that the activities undertaken were successful in their intent. Furthermore, this DCE has identified the benefits for CE attributes, yet no costing of activities to achieve CE attribute levels has been undertaken (and would be necessary for future CBA). A general population study, or perhaps one conducted in different neighbourhoods undergoing different types of regeneration, would give valuable insights into activities that communities felt could produce sentiments of the different CE attributes. By looking at different populations, an overview of the generalisability of these activities would be produced. Such work may be best suited for qualitative methodology such as focus groups, interviews or citizen juries formats.

As previously stated in Section 9.3.2, there is scope for furthering this study through the use of asset mapping to help identify current levels (status-quo) of the CE elements within communities undergoing regeneration. This would aid future investment in activities which support CE elements as it would provide the stakeholder with the opportunity to adapt and adjust the results from the

general population DCE (and the values for each CE element) to suit the communities of interest (affected by a particular urban regeneration programme). By understanding current levels of CE, a more informed understanding of the value for each CE element's levels and their utility gain can be reached.

Finally, it would also be useful to conduct further research on the cost of CE activities to residents through detailed understanding of how the everyday life routines of residents in these often more deprived neighbourhoods which are targeted for urban regeneration, are carried out. This study has drawn upon time commitment as a payment vehicle, yet in order to convert this to a meaningful 'cost' (for use in a full CBA) it would be necessary to understand the specific implications of this time commitment from residents. These areas are considered high risk and have been subjected to ongoing research of their 'lived realities', however, a wide-scale study of how their time is spent has not been undertaken. Such work would be beneficial to continued work on how CE is valued and could be sought as a pathway to future mental wellbeing health gains and for its inclusion and future use in CBA.

9.6 Implications for policy and practice

The thesis demonstrates that there is a value in the provision of CE promoting activities within urban regeneration programmes as a stronger sense of empowerment was shown to have a direct link to better general health and mental wellbeing. Therefore practitioners should take measures to ensure that CE promoting activities are successfully incorporated within the delivery of urban regeneration programmes as they can act as a pathway to health gains.

Evidence from the literature and the values elicited from the DCE, demonstrate that there is a need for these activities to involve more than merely having opportunities to participate. Whilst the literature highlighted that stakeholder help and support and inclusion were key elements of CE within an urban regeneration context, participants valued having a sense of belonging, feeling that they could trust stakeholders and having information and knowledge about the regeneration programme. Regeneration practitioners should ensure that decision-making processes are transparent and allow communities to truly

influence decision and see consideration of their views being implemented within the regeneration process. Failure to do so could lead to circumstances illustrated in the evidence base, where residents actively disengaged from activities and reported feelings of mistrust in stakeholders, feelings that have been hard for decision makers to overcome in future attempts to engage.

Regeneration practitioners need to ensure that they have a clear understanding of the community they wish to work with. As Chapters 2 and 3 outline, CE is context specific and how best to foster its development will depend on external factors. The results of the DCE provide values for CE elements which can be used as initial guidance for successful investment in activities to support CE, however these are all relevant to the baseline of 'no CE activities' and the DCE clearly highlights that more investment to provide the assumed 'best' level of a CE element may not be a worthwhile use of resources. Yet, with an explicit understanding of a community's current level of CE, the most worthwhile investment in CE promotion can be determined. The DCE illustrates that each CE attribute is valued and thus, future investment in activities that support CE should not exclude supporting one attribute in favour of another without first considering the current sense of CE within the community. It is about achieving the optimal balance and investing in those CE activities that will yield the highest sense of CE for a particular community. The study provides population values. For the most success, the context in which these are being applied should be taken into consideration.

Lastly, the thesis outlines the opportunity to value non-health outcomes of PHIs to inform optimisation of future resource allocation. Economic evaluation techniques provide a unique opportunity in ascertaining the perceived 'value' of these indirect means of health gains. Policy makers should continue to look to economic evaluation techniques for guidance with regards to wider public health funding.

9.7 Conclusion

To conclude, within the context of urban regeneration programmes, this study has contributed to the understanding of how CE can be identified, measured and valued both as an outcome in its own right and as an intermediate outcome

positively linked to health (a process and an outcome). CE can be viewed as a surrogate intermediate outcome and a likely positive predictor (covariate) of health outcomes and that the thesis contributes to an ongoing body of work. Through the use of economic evaluation methodology, DCE, the thesis has valued individual elements of CE within urban regeneration programmes which can be used by policy makers for decisions regarding future investment in CE. In doing so, the thesis has addressed limitations of previous evaluations that have failed to fully incorporate CE activities within their valuations of urban regeneration programmes and has evidenced claims that CE is linked to health within this context. Therefore, the thesis is able to recommend that investment in CE fostering activities could be a pathway to health gains sought from urban regeneration as a form of PHI.

As a final observation, increasingly, public health policy and funding decisions are seeking guidance from economic techniques in order to determine the most cost-effective initiatives and strategies. Yet, progress on the application of economic evaluation methodology to public health has been challenging, thwarted by complexities due to broad ranging costs and outcomes that are not readily suited to established economic evaluation techniques. This thesis has demonstrated from its initial conceptualisation, the possibility of adapting DCE methodology to produce valuations of complex non-health outcomes such as CE that have not previously been fully quantified and measured. It demonstrates DCE methodology should be considered for evaluations of PHIs looking beyond health gains to produce a fully comprehensive valuation of their costs and benefits.

APPENDIX A: 2nd and 3rd reviewer appraisal for full text search

Article	Reviewer 1	Reviewer 2
Reference Type: Journal Article	Accept - refers to how urban regeneration and how it impacts on residents QoL Accept - empirical work is not referred to - more information is needed Accept - more information on methods used is needed	Accept - appropriate study area
Record Number: 7597		Accept - more information is needed
Author: D. Jarvis, N. Berkeley and K. Broughton		
Year: 2012		
Title: Evidencing the impact of community engagement in neighbourhood regeneration: The case of canley, coventry		
Journal: Community Development Journal		
Volume: 47		
Issue: 2		
Pages: 232-247		
Short Title: Evidencing the impact of community engagement in neighbourhood regeneration: The case of canley, coventry		
Abstract: Neighbourhood deprivation in England endures. Compared to the rest of the country, quality-of-life outcomes in deprived neighbourhoods have not improved significantly despite thirty years of policy-based intervention. Over the last decade in particular, the importance of involving communities in regenerating their neighbourhoods - creating sustainable places where people positively choose to live - has been at the heart of policy. However, the realities of delivering community-led regeneration have proved complex and the benefits difficult to capture in terms aligned to the requirements of evidence-based policy making. Despite this, it is argued that failure to engage communities makes sustainable regeneration challenging and less likely to result in positive outcomes. Through a case study, the paper offers evidence of the cruciality of community engagement in providing the building blocks for sustainable neighbourhood regeneration. In doing so, important lessons for local policy makers, within the context of public sector financial austerity, are identified. © Oxford University Press and Community Development Journal. 2011 All rights reserved.		

APPENDIX B: Excluded studies with reasons (n=196)

Studies failed to meet the inclusion criteria's stated 'intervention' outline (not primary study of urban regeneration intervention - includes reviews, commentaries and theoretical papers)

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APPENDIX C: List of Included studies

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APPENDIX D: Data extraction of all included studies

General	Study Characteristics				Results	Study Quality	
Author Year	Location/Setting	Study Aim	Study Design	Study Sample Characteristics	Analysis	Findings/Outcomes (related to PE/CE)	
ADAMSON, D. & BROMILEY, R. 2008	9 designated areas in Wales' part of the Communities First regeneration programme (2002 -). Area A = valleys urban; B = rural; C = valleys urban; D = urban; E = valleys urban; F = urban; G = urban; H = valleys urban; I = urban Communities First programme to promote direct community involvement in a programme of regeneration policy and to influence change at a local level. The programme was set up by the Welsh Assembly Government in 2002	Research Aims (pg8) stated as: The explicit intention of the study is to consider the experience of community members who have become involved in the Communities First programme and its pattern of community empowerment, and the research team has been concerned to prioritise the experience of community members within this research. To assess the extent that the community members of Communities First partnerships have been able to achieve an influence through	Qualitative Data collection method: Semi-structured interviews with key stakeholders (n=51) in the case study localities. One group discussion (focus group) with community members per study area also conducted (n=9) (number of participants not stated).	Key stakeholders identified as co-ordinators (n=16), community members (n=20), local authority officers (n=6), external partnership members (n=7) and local authority councillors (n=2). Sample selection: Not reported	Details of analysis: not stated Year of interviews: not reported	Key findings on 'CE' stated (pg53): "In the 'majority' of case studies, there has been little evidence of significant programme bending by statutory agencies. Influence of the partnership is at the lower end of decision-making and we have seen no evidence of a major redesign or alteration in service provision as a result of the partnership processes. Where we have seen changes to local service delivery models, these have generally occurred as a result of a national level of agreement, with associated funding, to enable organisations to alter delivery patterns. -In the case studies there are a small number of examples where small-scale localised bending of delivery has occurred. This appears to be where the decisions of the partnership largely coincide with the pre-existing objectives and policy direction of the statutory agency. In case study I, there was evidence of local health board responses to partnership concerns in revising care patterns for older residents. In case study C, local authority planned expenditure on new fencing for a local park was diverted to provide play facilities more favoured by the community. In case study B, the	50%

		<p>this programme and thereby enable greater community-based decision making, demonstrated by an ability to influence other partners in their provision of services to the area.</p>				<p>partnership has worked with the local authority to determine the location of a small social housing provision. Conversely, case study A failed to influence a regeneration project being delivered in the Heads of the Valleys sub-region through a consortium of local authorities. -Evidence of statutory agencies experiencing difficulties supporting multiple partnerships in areas with many partnerships. Similar issues are experienced in rural areas caused by the geographical spread of partnership meetings".</p>	
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ALAIMO, K., REISCHL, T. M. & ALLEN, J. O. 2010	Michigan, USA	Key aim (pg500): "The purpose of the present study was to use data collected from a telephone survey of a random sample of Flint residents to confirm our hypothesis that participation in community gardens, beautification activities, and neighborhood meetings was positively associated with perceptions of social capital."	Quantitative Conducted in 2001 Cross-sectional telephone survey (n=1916) "This study was part of a larger evaluation of the Neighborhood Violence Prevention Collaborative (NVPC), a neighborhood development program designed to increase social capital and decrease violence in Flint neighbourhoods. The NVPC provided small grants to neighborhood organizations and block groups to engage neighbors in a variety of neighborhood development activities including community gardens and beautification. The present study employed a community-based participatory research (CBPR) approach focusing	Flint residents aged 18 years and older who had lived in their current address for the previous 12 months Sample selection: stated as below "Quota sampling of 143 Census block groups (defined for the 1990 decennial Census) in Flint with a random selection of phone numbers helped ensure adequate representation from all neighborhoods in Flint. The sampling goal of surveying 15 residents in each census tract was achieved for 83 Census block groups, and at least 80% of the quota was reached for 107 Census block groups. A final sample of 1,916 (63.6%) eligible respondents reached by phone agreed to be interviewed."	Year: 2001; Details of analysis: Regression analysis conducted using STATA. Data were weighted to account for non response, unequal selection probability, and age and gender differences between survey respondents and the City of Flint population, using the 2000 U.S. Census population estimates by Census block group. Prevalence and mean estimates were conducted using the	Findings: Overall: "suggest involvement in neighborhood meetings augment the individual and neighborhood-wide perceptions of social capital associated with community gardening and beautification projects. Neighborhood community gardens' impact on neighborhood residents' perceptions of social capital can be enhanced by neighborhood wide meetings." Did not participate in either the community gardens/beautification projects or attend neighbourhood meetings (n=1224) Have participated in a community garden/beautification (n=271): Bonding social capital: Trust and reciprocity scale, OR 0.10 (95% CI 0.02-0.18); Know neighbors scale, OR 0.14* (95% CI 0.07-0.22); Neighborhood people get along, OR 1.32 (95% CI 0.84-2.10); Intergenerational relationships scale OR 0.47* (95% CI 0.34-0.61); Social support scale OR 0.42* (95% CI 0.33-0.51); Linking social capital: Neighborhood people have connections OR3.52* (95% CI 2.48-4.98); Get to know police, OR2.31* (95% CI 1.70-4.14); Aware of neighborhood organization, OR2.18* (95% CI 1.61-2.95) Neighborhood norms and values: Feel responsible for neighborhood scale, OR0.21* (95% CI 0.13-0.29); Neighborhood involvement scale OR0.32* (95% CI 0.21-0.43); Informal social control scale OR0.22* (95% CI 0.18-0.33); Collective efficacy OR1.69* (95% CI 1.20-2.39); Neighborhood influence OR1.76* (95% CI	100%
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			on community gardens and beautification" (pg501)		complex sampling module to perform weighted analyses. Hierarchical linear and logistic regression analyses were unweighted and were used to take into account variation within and between Census block groups	1.30-2.37) 0.00; Neighborhood satisfaction scale OR0.10* (95% CI 0.03-0.18); Attended neighbourhood meeting (n=129): Bonding social capital: Trust and reciprocity scale OR 0.08 (95% CI 0.03-0.19); Know neighbors scale, OR 0.20* (95% CI 0.12-0.33); Neighborhood people get along OR 0.23 1.20 (95% CI 0.64-2.24); Intergenerational relationships scale OR 0.47* (95% CI 0.29-0.65); Social support scale OR 0.32* (95% CI 0.20-0.44); Linking social capital: Neighborhood people have connections OR2.32* (95% CI 1.51-3.57); Get to know police, OR2.39* (95% CI 1.17-3.57); Aware of neighborhood organization, OR6.44* (95% CI4.20-9.89); Neighborhood norms and values: Feel responsible for neighborhood scale, OR0.24* (95% CI 0.14-0.35); Neighborhood involvement scale OR 0.33* (95% CI 0.18-0.48); Informal social control scale OR0.23* (95% CI 0.09-0.37); Collective efficacy OR2.66* (95% CI 1.61-4.41); Neighborhood influence OR1.68* (95% CI 1.11-2.52); Neighborhood satisfaction scale OR 0.10 (95% CI 0.01-0.20) Both gardening & neighbourhood meeting (n=292): Bonding social capital: Trust and reciprocity scale OR 0.20* (95% CI 0.12-0.28); Know neighbors scale, OR 0.30* (95% CI 0.22-0.37); Neighborhood people get along, OR 1.31 (95% CI 0.83-2.06); Intergenerational relationships scale, OR 0.80* (95% CI 0.67-0.93); Social support scale, OR 0.68* (95% CI 0.59-0.77); Linking social capital:	
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						<p>Neighborhood people have connections, OR9.21* (95% CI 5.95-14.24) Get to know police, OR4.72* (95% CI 3.49-6.37); Aware of neighborhood organization, OR 8.49* (95% CI 6.11-11.79) Neighborhood norms and values: Feel responsible for neighborhood scale, OR 0.50* (95% CI 0.43-0.58); Neighborhood involvement scale OR 0.47* (95% CI 0.36-0.58); Informal social control scale OR 0.36* (95% CI 0.25-0.46); Collective efficacy OR 2.34* (95% CI 1.64-3.35) Neighborhood influence OR2.32* (95% CI 1.71-3.15); Neighborhood satisfaction scale OR0.19* (95% CI 0.11-0.27)</p>	
ALLEN, J. O., ALAIMO, K., ELAM, D. & PERRY, E. 2008	Michigan, USA 2 community gardens in Flint with youth programmes	Key aim: to examine if community gardening and beautification projects as a form regeneration can improve youth engagement and health (fresh produce accessibility)	Qualitative Data collection method: participant observation, photography, and interviews with youth, gardeners, other neighborhood residents, and Flint community police officers. 33 semi-structured interviews (30-120 minutes) conducted March 2001-February 2002	Study area 1 (East Bishop): 17 interviews with 15 community members (5 aged 0-16years) Study area 2 (Lakewood village): 13 community members interviewed (7 aged 10-16 years) 3 community police officers interviewed Follow up: Garden leaders and informants interviewed both before and after the growing season Sample selection: not reported	Interviews were transcribed verbatim and entered into the qualitative data software program ATLAS.ti. Thematic analysis and coding. Selected observations and interviews were reviewed in order to inductively	<p>Results suggest that the garden programs provided opportunities for constructive activities, contributions to the community, relationship and interpersonal skill development, informal social control, exploring cognitive and behavioural competence, and improved nutrition. Many interview participants described how the Flint community gardens brought together neighborhood residents who previously shared little in common and had little impetus to interact. Community gardens promoted developmental assets for involved youth while improving their access to and consumption of healthy foods. Planting rows of vegetables in the community gardens for donation to homeless shelters may have been particularly important to the youth because hunger is not uncommon in Flint. In 2005, more than 15% of Flint</p>	100%

					ascertain recurring patterns and topics, which were developed into a standardized code book. Once the texts had been coded, 10% of the text was checked for coding comprehensiveness and inter-coder consistency.	residents reported that they did not always have enough to eat. ³⁶ Interview participants described families living in their own neighbourhoods that were experiencing food insecurity. Volunteering early in life to improve one's community and aid those less fortunate is associated with higher rates of volunteerism among adults	
ALLEN, T. 2000.	Local authority estate undergoing physical renewal (focused on one phase where 110 homes were about to undergo refurbishment. The work, which took from 6 to 12 weeks, involved replacing doors and windows, rewiring, remodelling the kitchen and bathroom,	"To elicit tenants' understanding of their situation, of the experience of housing renewal and how it impacted upon their health and wellbeing" (pg443).	Both quantitative and qualitative (author states that the latter is the overriding focus of this study) Data collection method: Survey with 'more than half' of householders involved in 110 homes refurbishment (n= unknown) Interviews of survey participants (n=16) Year: not stated	Details of participants: not reported (other than 'currently experiencing home refurbishment) "The 16 people interviewed were all selected from those who completed the survey and indicated their willingness to take part. They were chosen to give a broad spread of household composition, and based on the amount of time they were likely to	Data analysis: an interpretive biographical interview method was used: "These in-depth narrative interviews sought biographical experiences to see how far people's life histories, present	The research found that overwhelming emphasis on 'partnership with the community' in housing renewal schemes is often met with a 'muted response' from the residents as it often fails to address their concerns and aspirations. The issue of 'personal control' and 'opportunity to exercise an appropriate level of control' had a clear relationship to health outcome (by reducing stress). Some tenants described a lack of security as their wishes were overridden and not always taken into consideration. The lack of control had left many feeling distanced and alienated. Lack of information and control was seen as making the process harder. In exploring	0%

	complete redecoration and, where, necessary, installing or replacing central heating)			spend in their home" (pg446)	situation and patterns of action influenced their response to changes in the home environment, how these changes were therefore perceived and the consequent effect on well-being..." (pg445)	their experiences of housing renewal, this research found a complex picture wherein some residents suffered adverse health effects while others did not. What emerged as a possible explanatory model was the issue of personal control. This was more important to some than to others but the opportunity to exercise an appropriate level of control had a clear relationship to health outcome, in some cases, by reducing stress. Evidence indicated that those who had scored highly on the survey regarding how much control they wanted reported no adverse health effects. Those who scored low on both these measure reported that their health was worse than normal in the renewal process. Another finding was that previous bad experiences and let downs gave people less incentives to get involved in the regeneration process Author states "Furthermore, there was some evidence to suggest that health and well-being could be actually enhanced through greater involvement, recognition and sense of personal efficacy [...] identifies the potential for genuine empowerment and improved well-being when there is the opportunity for increased personal control. The paper calls for a new landlord/tenant partnership in which negotiation about individual levels of choice and control can take place." (pg459)	
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BLAKELEY, G. & EVANS, B. 2009	East Manchester areas undergoing regeneration	To understand what 'stimulates' individuals to participate within urban regeneration programmes. What 'motivates' individuals to be part of community groups?	Qualitative Data collection: Semi-structured interviews (n=15) and focus groups (n= not reported) and survey (n=276) Observational participation (researchers attended meetings and community events) Years: 2004-2006	Interviews conducted with 15 'activists' (definition and socio-demographics not provided) Survey participants: local residents (28.6 % were involved in a Tenants' and Residents' Association, 20.3 % in Homewatch and 22.5 % in neighbourhood planning). "We focused on residents who were involved in a variety of ways and we included individuals who were 'non-stayers'. This is because the reasons for terminating involvement are also significant. We also interviewed residents who were formally involved in what can be construed as a partnership mode as well as others who were tending towards a more oppositional or protest mode of activity" (pg17). Focus groups: not reported	Data analysis: biographical interview method was used Details not reported	Study identifies that the most 'powerful' explanation for people becoming engaged and involved is the desire to re-create a community which they feel has been undermined by other stakeholders and public agencies. Various motivations for participation are identified with most linked to an attachment to the geographical area and its people. Authors conclude "Those most embedded in the area and who had previous political activities in east Manchester, or elsewhere in the city, displayed the greatest resilience. Social networks and existing identities matter most in producing and sustaining individual participation. To express the explanation of participation in the language of one resident, 'one thing just led to another' " (pg29)	50%
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BOWIE, J., FARFEL, M. & MORAN, H. 2005	East Baltimore	"To more fully explore and understand community perceptions of and experiences with urban renewal activities and to involve the community in the development of approaches to address their concerns" (pg533)	Qualitative Data collection method: 5 focus groups (n=37) Focus groups were conducted with residents of low-income and minority neighbourhoods experiencing urban redevelopment activities, including the East Baltimore Empowerment Zone. To supplement the focus groups, we asked the participants to respond to a short set of written questions about their exposure to demolition activities and associated experiences with notification, planning, and problems. Years: November 2000-December 2002	Study sample: The first two demolition focus gender specific based on the potential for different perceptions and experiences related to demolition practices (7 females and 6 males). The remaining 3 focus group included men and women (11 females and 13 males). Sample selection: Recruitment through local organisations and posters in offices of collaborating community organisations and staff. All participants over 18 years old, were african-american and living in the vicinity of demolition or gut rehabilitation activity	3 sources of data used: raw transcription data, type observer/rec order notes, answers to the brief written questions. Analysis plan: thematic analysis (matrix to code recurrent themes was developed). To reduce researcher bias reviews of the transcription s were first done independently by two members of the research team experienced in the use of qualitative data. A meeting was	'Community concerns about awareness and notification' and 'concerns about current practices', highlighted the problem that no advance notice is systematically given to residents living near redevelopment sites. Residents felt a lack of awareness and expressed safety concerns in their immediate surroundings; 'Psychosocial impact', participants expressed frustration and a lack of control over the psychosocial adjustments and ramifications of demolition and gut rehabilitation activities. The lack of involvement that community members had in planning redevelopment activities and the disregard for inconveniences experienced from demolition and gut rehabilitation added to their feelings of limited control over their surroundings and subsequent negative impressions. Participants felt that improving demolition practices will require their involvement in the process. Participants felt a strong connection with the potential for positive impact that gut rehabilitation activities, provided by community members, could have in the neighborhood. Participants recommended that residents of impacted neighbourhoods serve as community educators to notify and educate residents about upcoming demolition and gut rehabilitation activities.	100%
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					held to present the findings to a group of local agency representatives addressing demolition issues and to assess their sense of the representativeness of the themes that emerged.		
COLENUTT, B. & CUTTEN, A. 1994	UK-wide, 3 case study areas undergoing regeneration at the time of the research (not specified)	To understand the process of community empowerment initiatives in urban regeneration programmes	Qualitative Data collection method: Interviews with members of community regeneration projects Years: 1993-1994	Study sample: community members and individuals or organisations who had some involvement in community development in inner city areas. Number of participants and socio-demographics not reported (the selection of individuals for interviews is not clarified, nor is the selection of the case studies examined).	Data analysis: the details for analysis of interviews and incorporation of case studies findings are not explained.	Findings highlight that participants felt that in order to be able to participate in local activities and decision-making, they need more capacity-building resources as they feel ill-equipped. Discusses that in order for participation and partnerships to be created, more flexibility is required and more opportunities for collaboration is required. Feelings of exclusion due to unavailability to attend or meet timeframes set but other stakeholders (non-community needs being prioritised). Top-down (stakeholder led) approaches should not dominate as this makes residents feel a loss of control and disempowered.	25%
DEPTFORD CITY CHALLENGE EVALUATION PROJECT	Deptford, London	To examine the creation of community empowerment in the Deptford	Qualitative Data collection method: focus groups, participant observations,	Study sample: details not reported	Data analysis: not reported	Failure for stakeholders to engage with community members led residents feeling that decision-making was being done without them (sense of frustration and lack of control). Lack of structure in	25%

1994		regeneration programme	interviews Years: 1992-1994			local forums and lack of overall awareness led to few residents getting involved in local activities thus, forums only represented the views of a small % of the community. Feelings of isolation highlighted. The authors also state that the lack of sense of influence resulted in feelings of frustration and disempowerment. They recommend that future efforts concentrate on means for collaboration and partnership with the local community.	
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GOSLING, V. K. 2008	Housing estate in northern England undergoing regeneration (anon - referred to as 'Maple Hill')	To examine how regeneration policies and practices affect a normally socially excluded group - women	Qualitative Data collection methods: 2 stages of the study: 1- participant observation, focus groups and interviews with women attending community groups and community workers 2- main data collection: semi-structured interviews (n=21) Years: 1999-2002	Study sample: Details of focus group participants and initial background interviews not detailed Main semi-structured interviews (n=21), women aged 18-80 years old exploring at length their personal understandings and experiences of social exclusion and urban regeneration. Each woman was interviewed once and interviews lasted around two hours. Recruitment: 9 from community groups, 1 from regeneration meeting, 6 through snowballing via community workers, 3 worked for community organisations and 3 were relatives of other interviewees	Data analysis: not reported	The research found that a 'good community spirit' was the single most commonly mentioned (highlighted by 13 of the women) positive aspect of living on the Maple Hill estate and to mention their hopes that good community spirit existing prior to relocation and renewal would be continued. All of the participants said that they hoped that the regeneration process would bring specific benefits, such as better housing conditions, a reduction in crime, better local facilities and improvements to public transport. However, significantly, these desires were rarely discussed in relation to their individual needs, but most commonly in relation to how these would improve the estate and be good for the local 'community'. Problems of regeneration were highlighted: In particular, they highlighted four key problems that had been caused, or significantly increased, by the regeneration process. These were: feelings of powerlessness in the regeneration process; increased levels of stress and uncertainty; real concerns about being unable to return to the estate after the regeneration; and, the current decline of both resident numbers and community groups. It is evident that) top-down approaches continued to dominate the regeneration process in Maple Hill. Despite seven of the women regularly attending meetings regarding the regeneration, they believed that their opinions were not seriously	50%
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						considered. The author concludes by stating that "true involvement and consultation in regeneration processes can only be achieved by dedication to the long-term development of the skills and confidence of local residents (and in particular women). This would enable them to participate more fully in this process and its planning and not simply as unpaid volunteers."	
HIBBITT, K., JONES, P. & MEEGAN, R. 2001	Merseyside, 2 areas undergoing urban regeneration (Leasowe outer estate in Wirral Metropolitan Borough Council and	To explore the role of social capital and participation in urban regeneration initiatives	Qualitative Data collection methods: not explicitly stated however, text refers to interviews and present quotes from residents and community	Study sample: not explicitly stated but the text quotes the following participants: A representative of a local Housing Association, 7 Leasowe residents, a chair of one of Bootle's	Data analysis: not reported	The authors highlight that it is not just the role of communities and groups and their networks within regeneration that needs to be discussed but that experiences where community groups are collaborating with communities and involving them in decision-making are shown to be "strengthening - however slowly and patchily- different types of	50%

	<p>Bootle/Seaforth/Orrel in Sefton Metropolitan Borough Council) "The partnerships have all produced 'strategies' and 'action plans' for their areas and are involved in the development and delivery of projects."</p>		<p>representatives in study areas A typology of social capital within both areas was also created Year: not stated</p>	<p>Neighbourhood groups, undisclosed number of members of credit union, an chair of a Housing Association in Leasowe, 1 Bootle resident, 1 community board member in Bootle, a local council officer in Bootle and 1 pathways community representative on the Bootle/Seaforth/Orrel Board.</p>		<p>social capital within neighbourhoods, and that building relations of trust between members of local communities". However, linkages with wider structures of power need to further explored, "although fragile, the centrality of relations of trust between residents and professional agencies appears to be a useful by-product". Partnership is highlighted and emphasised: communities should build capacity alongside and in conjunction with partnership from other agencies. Previous broken promises - people give up. Residents felt that professionals were patronising and negative towards the area, seeing it as a burden to the mainstream (problem area) - acted as additional motivation for getting involved. Frustration that their opinions are not heard was highlighted by some as motivation for involvement. The authors state in their conclusion that this collaboration can help eliminate feelings of mistrust and that there is a need for transparency: "through the eyes of some of the residents involved, that in the most optimistic accounts of these changes, the newly forged relationships are acting to reduce some of the mistrust of professionals that has developed in neighbourhoods over time and which has also acted as a barrier to community involvement. This process is however slow and fragile, and must be accompanied with appropriate support for local residents and within an open</p>
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						<p>and transparent process where agendas are clarified and language is not used as a tool against people". Many of those residents participating in Pathways, and related initiatives, have different motivations for their involvement.³ This motivation includes concerns over their children's future and schooling; the poor environmental and social condition of the local area, particularly to do with housing and re-housing; social problems; and especially the perception that their area was 'not on the map', housing 'forgotten people'. Other residents claimed their motivation stemmed from frustration that their area, particularly as expressed in Leasowe, lacked effective local politicians, with no 'big hitter' (prominent local politician) to represent the estate. Another group, owner-occupiers in Bootle, for example, were particularly motivated because they have seen the value of their houses fall dramatically, with, it was claimed, 'newcomers' not being interested in the area. Housing issues appear to be a key motivation for involvement.</p>	
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KEENE, D. E. & RUEL, E. 2013	Atlanta, USA	To understand how relocation due to public housing demolitions has affected elderly residents	Qualitative Data collection methods: Semi- structured interviews (questions framed in an open ended manner). Interviews lasted on average 70minutes Year: 2009-2010	Study sample: 19 women, 24 were african-american, all aged over 55 years old. Only one participant was married.	Data analysis: ground theory approach "starting with broad questions about the experience of relocation and reading transcripts closely for emergent themes". Atlas ti. Was used to code all transcripts	"Participants in this study describe many benefits associated with living in communities that were "like families" and where they often held important roles as respected elders. While some participants were quite satisfied with their moves, others describe the dispersal of these "families" as a deeply felt loss. Social networks were scattered in the relocation process, and the buildings that served as geographic anchors for these social ties were demolished. While some were able to maintain connections with members of their public housing "families" and drew on support from younger kin in their new homes, others describe experiences of profound isolation after the move" (pg9). The authors state that loss of kinship and social ties and social status led to a sense of isolation and loss of control over their surroundings. Ill health and deaths were attributed by some residents as being associated with grief from the move. The study concludes with recommendations that moves/relocations (particularly from public to private sector housing) should do more to seek to recreate or maintain social ties and connections as without these residents may feel vulnerable and a loss of their importance within the community. Furthermore, new communities may not be welcoming and there may be caution about forming new ties leading to disparate community groups. New ties were regarded by one	75%
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						resident as a source of risk where they were once protection.	
KHAKKEE, A. & KULLANDER, B. 2003	Brickebacken (Orebro) and Rinkeby (Stockholm), Sweden - both areas undergoing regeneration	To explore the participation and representation of minorities within an urban regeneration process	Qualitative Data collection methods: Semi structured interviews with ethnic minority residents in Brickebacken (n=9). Not reported for 2nd study area Years: not stated	Study sample characteristics: Participants are identified as being ethnic minorities and some (2-3) being newly immigrated from elsewhere	Data analysis: not reported	Study identifies that a key barrier to ethnic minorities participating in civic organisations and decision-making processes is language proficiency and that they often describe feelings of disempowerment and marginalisation. The role of 'catalysts' (events or people) could act as facilitators and encourage more involvement. More accessible networking and collaboration is stated as essential. Lastly, establishing social ties and sense of control is described as being key components to future participation and is shown as being	25%

						essential by those who are successfully involved in community groups such as tenant associations.	
LAWLESS, P. 2012	Throughout England - 39 areas undergoing the New Deal for Communities programme	To examine the outcomes associated with community participation and engagement from a regeneration initiative	Quantitative Data collection methods: Housing survey questionnaire addressing socio-demographic, status and attitudinal considerations Baseline in 2002, subsequent surveys in 2004, 2006, 2008. Furthermore, case studies areas were identified to examine particular issues (worklessness for example). Years: 2002-2008 Comparator areas: deprived neighbourhoods in the same local authorities as NDCs, but in non-adjacent wards to avoid potential spill over effects.	Study sample characteristics: Socio-demographics not provided but details can be found in supplementary studies. "the biennial interview-based household survey. In 2002 a baseline was established across all 39 NDC areas using a survey questionnaire addressing socio-demographic, status and attitudinal considerations. The questionnaire was intended to Community Engagement in Urban Regeneration 515 identify change across all six outcomes of the programme, and was based on a random sample survey design which culminated in 500 individual responses from each NDC area— 19,574 across the whole programme. The survey was repeated in 2004. For the subsequent 2006 and 2008 surveys,	Data analysis: not reported	Findings showed that there is little to suggest that NDC areas as a whole saw more in the way of change with regard to community indicators than did other similarly deprived areas in the same local authority districts. "On average, those who had been involved in their local NDC, at any time point, experienced significantly greater improvement in outcomes between 2002 and 2008 when compared with "non-involved" respondents. This was true for indicators such as number of crimes experienced, feeling safe walking alone after dark, trust in local agencies, being involved in local organisations on a voluntary basis, and thinking the NDC had improved their area" (pg520) .Two key findings emerge from empirical material laid out above. At the area level there is little to suggest that NDC areas saw more change than the comparators, or that partnerships investing more saw greater change than those investing less. Yet, apparently paradoxically, individual-level data points to positive associations between involvement in NDCs and their projects and positive change. The main reason which helps explain this apparent discrepancy between area-level data showing limited evidence of change when involved individuals saw positive gains, is that there simply were not	75%

			<p>sample size was reduced to 400 per NDC area, thus providing around 15,800 responses across the programme for each of these two years. Response rates averaged around 60% for all four surveys" In order to understand better how change occurred at the local level, qualitative work was also carried out within six NDC case-study areas based on project reviews, documentary evidence and 10 semi-structured interviews with key local actors. In addition, towards the end of the programme 30 reflective interviews were held with key stakeholders in six NDC areas seeing considerable change</p>		<p>enough involved individuals (PG520). The study concludes that "Despite substantial investment by partnerships in the community dimension, this was not reflected in changes to area-level social capital and community indicators. These findings suggest that there are limits to what can be done locally, on the depth of neighbourhood-based resources able to run services, and on the degree to which enhanced engagement can be associated with improved social and community indicators"</p>	
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MARTIN, L. 2007	Atlanta - 4 neighbourhoods that had/were undergoing gentrification (Lakeside, Belleview, Tyler Hill, and High Point)	To examine the effect of gentrification on power and how neighbourhood organisations deal with minimising loss	Qualitative Data collection methods: Interviews (ranging from 20-120 minutes long) Years: 2001-2003	39 interviews with neighbourhood activists. 2 interviews with ex-planning officials.	Data analysis: Content analysis of interviews (open coding - 'compared and explored codes within and across respondents and neighborhood cases; and selective coding')	Study showed that long-time residents concerned that involvement of new residents to the area would result in a loss of existing power held by long-time residents. Community organisations and involvement in local decisions was shown as providing a sense of belonging and participation and control to long term residents. 1 neighbourhood showed that a community group could guide newcomers seeking to become politically active to their organisation. This was a direct result of seeing the potential damage of disparate communities seen in other neighbourhoods undergoing gentrification. Here new and old residents were unable to collaborate and caused future problems. One area (Tyler Hill) residents has seen a lack of participation as the residents association is dominated by new residents and long-time residents do not participate fully in organisations from fear of being ridiculed. The importance of resources (financial, members, reputation) is highlighted in the mobilization of social organisations. Community building activities are highlighted as a means to engage with communities. The study concludes that political displacement is an outcome of gentrification but it can be minimised by neighbourhood organisations.	25%
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<p>MATHERS, J., PARRY, J. & JONES, S. 2008</p>	<p>West Midlands, area undergoing regeneration. Described as being "disadvantaged in terms of many deprivation indicators. The area is located on the edge of the city and has not previously been in receipt of any substantial regeneration funding" (pg596)</p>	<p>To "examine not only why people do not participate but also to begin to examine how people resist participation" (pg596)</p>	<p>Qualitative Data collection methods: Ethnographic work with residents using 3 techniques: direct, first-hand observance of daily behaviour recorded through field notes, informal conversations with residents (recorded by field notes) and structured, one-to-one interviews (field notes and audio recordings) 1 researcher spent 8 months 'in the field' with residents (entered the area socially). This led to snowballing to make contact for interview contacts) Years: 2005</p>	<p>Study sample characteristics: Interviews conducted with new deal for community officers and residents (n= not reported in full and only 3 participants mentioned by ID: 2 mothers and 1 unemployed male) Sample recruitment: 'opportunistic and snowballing'. Author states that participants were reluctant, in the main, to undertake formal interviews and how the role of trust between interviewer and interviewee became of paramount importance.</p>	<p>Data analysis: not reported Study limitations are highlighted and concerns over a homogeneous sampling techniques and the influence the researcher could have exerted over the results and the potential for lack of representative participants-compared to the diverse general population is stated.</p>	<p>non-participation in regeneration led activities and issues may stem from previous bad experiences with local authority workers (one interviewee states that negative opinions from her home visitor made her feel inadequate and she purposely tries to minimise contact and hide from the gaze of local authority and their works in general). Fear of judgement and regeneration (NDC) workers infringing on their activities to generate income informally is revealed as a reason/justification for actively avoiding participation in regeneration participation/engagement efforts. The role of informal economics as playing a key role in communities' survival strategies and thus leading to their "avoidance of the state and., by extension, the NDC programme" is emphasised by the authors. Findings showed that survival strategies reliant on support networks were felt to be threatened by potential official channels and knowledge. Distrust in state authorities and unable to separate the regeneration efforts from this was highlighted. Furthermore, social groups and peoples peers having bas experiences was shown to influence their behaviour as they are reliant on the group for support and advice and to have a sense of community. The regeneration efforts were seen to be failing due to inability "to recognise the importance of local social networks and the need for residents to retain</p>	<p>75%</p>
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						membership of them. Non-participation in NDC activities in these instances is not necessarily the result of a lack of capacity on the part of the residents. The concerned, but rather a rational reaction based on their socio-cultural context" (pg600). Findings show that rather than residents not having the capacity or sense of apathy from being involved, the barrier to their participation and further involvement with their wider community is a sense of mistrust and desire to remain 'hidden'. The authors conclude that stakeholders must be viewed as a 'trusted' body, with delivery through bodies that are separate from the 'threatening state' either with greater community/ voluntary sector involvement. The need for an alternative space and a sense of non-state domination must be created for communities to engage	
MCCARTHY, J. 1997	Hellersdorf, former East Berlin prefabricated housing estate (42000 units housing 110000 people) undergoing housing-led regeneration, Germany A regenerated neighbourhood (refurbishment	To examine the experience of improvement and regeneration for communities	Qualitative Data collection methods: Not explicitly reported. The authors mention attendance at tenant groups and creation of forums such as Hellersdorf environmental forum	Sample characteristics: not reported other than being tenants of the area	Data analysis: not reported	The study provides no specific findings related to PE or CE. However it does provide an overview of community involvement in the area and highlights that communities need to have circumstances that enable them to 'realise their own solutions' and have a voice which is listened to, ensuring that an area is created that meets their needs. Study concludes that these efforts should be done in an outward looking manner to ensure they link with the city-wide programme and doesn't create relocation of urban problems	50%

	done in 1992)					elsewhere or gentrification.	
MCWILLIAM S, C. 2004	Greater Pollock, Scotland Area described as "a predominantly working-class housing estate located on the periphery of the city of Glasgow. This area has been regarded for at least the past 20 years as experiencing severe social and economic problems" (pg268)	2 key aims: 1 - To examine the extent to which community involvement under New Labour's social inclusion partnership (SIP) initiative is markedly different from the Conservative's most recent urban policy initiatives (e.g. New Life for Urban Scotland and Priority Partnership Areas). 2 -to analyse the experience of community participation in the early stages of the Greater Pollock Social Inclusion Partnership (GP SIP)	Qualitative Data collection methods: semi-structured interviews and focus groups Year: 1999	Study sample characteristics: Number of participants not provided and details of the participants are summarised as 'key decision makers and local community'	Data analysis: not reported	Findings describe that the SIP was flawed and communities were not consulted with in the initial stages of creating the partnerships. Therefore the "community were not given adequate opportunity to be involved in decision making nor did they have appropriate and effective mechanisms to allow them to become involved at any level in the early stages of working-up the Greater Pollock social inclusion plan, which had to be submitted under the tight time constraints laid down by the SO." (pg270). Deadlines Feelings that any consultation was 'tokenistic' and that communities were not given any sense of involvement or partnership due to the SO having a predetermined timeframe and agenda. Community members felt ignored... Findings state "The community were effectively absent in the early, crucial agenda setting, stages of the GP SIP. This resulted in tension, mistrust and suspicion developing between the local community and the GP SIP. This was demonstrated during two community conferences held to publicise the intentions of the GP SIP. Thus, although the community may have been invited to	50%

						attend the Community Conferences, the agenda had been set prior to these by the interim GP SIP Board and the SO. Despite the pretensions that the views of the local community mattered, they were in effect being used at the conferences to 'rubber stamp' the Greater Pollok interim Board's bid document to the SO. The community were unaware that this was happening" (pg271). Unequal membership within partnerships was also highlighted. Previous experiences of broken promises (focus group) and a lack of awareness was also highlighted. The study concludes that "there was no redistribution of power from the state to local communities that would allow the have-not citizens of Greater Pollok, presently excluded from political and economic processes, to be deliberately included in the future" (pg274).	
MUIR, J. 2004	North Belfast Housing strategy in Northern Ireland and Ballymun regeneration programme in Dublin, Republic of Ireland	To report findings on the promotion of public participation in urban regeneration in both parts of Ireland	Quantitative and qualitative (greater emphasis on the qualitative) Data collection methods: unstructured and semi-structured Interviews, questionnaires, observation of community meetings Years 2001-2002	Study sample characteristics: North Belfast = pg955 "observation of 16 meetings; 24 unstructured interviews; 8 semi-structured individual interviews and 2 semi-structured group interviews; and postal questionnaires to members of the cross community consultation forum (35 per cent	Data analysis: not reported	The study states that in the North Belfast Housing Strategy "There are four key research findings: the complexity and fragmentation of the consultation process; entrenched division and conflict including a divided civil society; the impact of territorial divisions on housing need; and the impact of Protestant 'alienation' or 'defeatism'" (pg955). Ballymun: "There are three key research findings: the complexity and fragmentation of the consultation process; the importance of social exclusion and the management of integration into the surrounding area;	0%

			<p>response rate) and to a local politician who was unable to take part in an interview. Those interviewed included: members of local community groups (both volunteers and salaried workers); NIHE officials; staff from voluntary organisations with an interest in North Belfast; and local politicians. Ballymun = "observation of 16 meetings, 22 unstructured interviews and 18 semi-structured interviews (16 of which were residents of newly constructed homes). Those interviewed included: members of local community groups (both volunteers and salaried workers); other local residents; officials from Ballymun Regeneration Ltd (BRL), Dublin City Council (DCC) and the Ballymun Housing Task Force (BHTF); staff from other organisations with an interest in Ballymun; and one politician"</p>		<p>and the dynamic of distrust within the consultation process." (pg959). The study found that successful representation can be achieved through a stable relationship between the state and civil society and that context for regeneration has an impact on the success of any partnership attempts. Existing power and ideological differences can hinder effective representation. Lack of trust issues and transparency caused some delays and hindered representation of local interests. "The case study research found a great difference between the enthusiastic promotion of partnerships by governments and the realities of participation in partnerships at local level. Despite this, in both case study areas there was an assumption by all participants that public participation was essential for the success of the programmes" (pg962). The study concludes that economic factors can influence community involvement and sense of control and successful creation of partnerships and that efforts within regeneration programmes must change to reflect this - "Community planning exercises should include an analysis of the ways in which power works within consultation structures. The intention of state agencies to build community 'capacity' within urban regeneration programmes should be undertaken in the context of a deeper understanding of the relationship between the state and civil</p>	
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						society" (pg963).	
MUIR, J. & RHODES, M. L. 2008	Belfast and Dublin - 3 case studies in each city. Areas have varying levels of community strength/fragmentation within urban regeneration.	Aim of the research to explore the vision and reality of community involvement in Irish urban regeneration. It examines the processes and outcomes of community involvement	Qualitative Data collection methods: interviews - semi structured. Years: not stated	Study sample characteristics: Author states "26-depth semi-structured interviews were conducted across the six cases, with the number of interviews for each case ranging from three to six, according to the range of participants involved. An attempt was made to include senior managers/leaders of organisations representing public, private, non-profit and community interests in each case" (pg503).	Data analysis: not reported	Type of 'vision', history of community involvement, community resources and individual leadership all shown to impact on community involvement. Findings showed that in 2 areas, stakeholders and communities did not share a common vision thus leading to a stalemate which was damaging to the project. However, where there was established history of community involvement, negotiation was possible. History of community involvement (communities having networks, knowledge and skills already in existence) was shown to makes them more capable at ensuring their voice is heard in local decision-making. However, past bad experiences led to poorer working relationships Access to resources through funding gave some communities greater access to knowledge, expertise however the impact was not always easy to assess. Key individuals were important advocates of community interests. Trust was mentioned as an important factor of creating positive involvement partnerships in urban renewal. In areas where the vision for the area was not favourable to both stakeholders and residents there was the potential for residents taking a stance against the programme, delaying the project or the state would take the lead and not interact with the community.	50%

						Negotiation highlighted as a key element of successful regeneration with distribution of power between community and state. Not always equal but allowed communities to feel more involved. Consultation was more successful when an appreciation of the context is sought by building on existing networks.	
NIENHUIS, I., VAN DIJK, T. & DE ROO, G. 2011	Arnhem, the Netherlands. 5 deprived areas	To examine whether participating in urban regeneration and neighbourhood interventions is related to peoples lifestyles	Quantitative Data collection methods: postal survey distributed in 3 languages (Dutch, Turkish and Arabic) in order to try and overcome potential bias. Authors stated that "Despite our careful distribution and design of the questionnaires, we anticipated that people committed to the neighbourhood would be more	Study sample characteristics: "a total population of 22,390 inhabitants; 856 randomly selected residents (17.1%) responded" (pg99). Deprived area residents chosen at random to try and understand what influences participation in community engagement efforts.	Data analysis: Analysis not reported in detail Author states "In the questionnaire we tried to establish the degree to which the respondent participated in neighbourhood projects, their attitude	Findings show: Have you been active in neighbourhood projects to improve liveability and public security in your neighbourhood? Never (47.8%) Almost never (16.2%) Sometimes (22.6%) Often (6.1%) Very often (7.2%); Are you willing to become active in neighbourhood projects to improve liveability and public security in the near future? Definitely not (10.3%) Probably not (19.7%) Maybe (41.2%) Probably (18.1%) Definitely not (10.8%). 3 profiles realised; 'active locals' who display a natural interest in neighbourhood affairs and have been active; 'sideliners' have a selective interest in neighbourhood affairs, resulting in nonparticipation in neighbourhood projects and 'doubters'	25%

			<p>eager to respond to the questionnaire than others. The scores on participatory behaviour are therefore likely to be higher in the survey than they are in reality. In addition, a major bias inherent to postal surveys like this one is the non-response of illiterate people, who comprise around 15% of the overall population in Arnhem, a proportion that may be significantly higher in more deprived areas (some estimates suggest that illiteracy rates may be as high as 20-30% in these districts)." Years: 2007</p>		<p>towards participation, and the relationship between that attitude and the degree of liveability and public security in the neighbourhood. We also tried to ascertain the way residents saw their neighbours, and the degree of solidarity they felt with their community. We then combined answers regarding participatory behaviour and willingness to participate with responses to questions</p>	<p>who have also been inactive over the past year, but are prepared to participate in neighbourhood projects in the near future. "Overall, our data support the idea that personal lifestyles explain why residents decide to get involved. Patterns of social participation structure participation in planning processes, and feeling connected to and passing your life within the neighbourhood can explain willingness to participate." pg106. More findings in article</p>	
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					about personal characteristics to link participation in planning projects to lifestyle." (pg100)		
POLLOCK, V. L. & SHARP, J. 2012	Raploch, Scotland Area undergoing regeneration. Centred on a participative public art project as part of the Raploch Urban Regeneration Company (URC)	To examine the undertaking of participation and empowerment in an example of urban regeneration practice and the changing significance of public art as part of a larger visual process of place making. These projects are seen as a means of empowerment	Qualitative Data collection methods: Ethnographical research (interviews, photo elicitation, focus groups, questionnaires and observation) with direct participants and stakeholders Years: 2006-2010	Study sample characteristics: details not reported in full. 1 enhanced community support officer, 1 focus groups with mentees of the 'breaking the mould' scheme for apprenticeships for local unemployed women with constructors carrying out the renewal, 1 focus group with 'professionals', and redevelopment, 1 RCP representative , 4 residents (interviewees)	Data analysis: not reported	Findings state that "The spaces, whether 'creative' or 'stalled', in the Raploch show how empowerment through artistic process is increasingly instrumentalised and infused with top-down agendas, be it the employment of individuals or, arguably, getting the community to deal with a problematic area of land until such a time as the broader regeneration process can be reinvigorated. There is an interrelationship between macro and micro issues, but a lack of recognition that, for local residents, the micro issues are of the most importance and can have a determining influence on the role citizens then assume. However, rather than shared objectives and approaches between institutions and the community, here it was difference that engendered the greatest sense of empowerment" (pg3074). Findings showed the potential for a public art process to activate citizens, the wider context and politicisation of the spaces meant that the community could not wholly own or feel empowered. Findings state that "participatory public art processes can	50%

						be a means to activate and empower citizens, often on their own terms rather than adhering to broader political agendas, but that the project-based nature of the funding and the way in which it is integrated and implicated in other processes mean that achievements can be quickly unwoven" (pf3075).	
SOEN, D. 1981	Tel Aviv - an area undergoing urban renewal and the creation of a community centre	To examine citizen participation in urban regeneration/renewal projects	Qualitative Data collection methods: Case study however details of source information on the case study are not disclosed Years: 1976-1977	Study sample characteristics: not reported	Data analysis: not reported	Findings show that communities being involved in the decision-making process and coordinating with public agencies aided the renewal process. Communication difficulties were identified as there was need for more information sharing by the steering committee with the wider population and would have added more 'legitimation to their activities'. - Dissemination of information needed to the community. The role of consultants/specialists was emphasised as aiding renewal - potential skill building and resource sharing. Other lessons learnt were the importance of co-operation and collaboration between the community and the other agencies/stakeholders. The need for communication and negotiation to	50%

						overcome difficulties of communication is highlighted and emphasised.	
STUBBS, J., FOREMAN, J., GOODWIN, A., STORER, T. & SMITH, T. 2005	Minto, large public housing estate in Sydney's south west undergoing demolition and regeneration	To understand the short and long-term impacts of public housing estates undergoing urban regeneration	Mixed methods Data collection methods: Participatory approach (author states they were invited in September 2002 to become involved with the Macarthur housing coalition, able to attend the Minto resident action group and the department of housings Minto redevelopment reference group as a representative of the coalition. A resident survey was developed. A series of focus groups and	Study sample characteristics: Survey: 180 households interviewed using a stratified cluster sample. 2^% male and 74% female , 60% lived there for over 5 years, over 40% for more than 10 years and 23% for over 20 years. 50% of respondents under 40years old. 65% had family in Minto or nearby. focus group and workshops are not detailed	Data analysis: survey analysis methods not provided in detail, findings suggest that regression analysis and cross tabulations may have been conducted. Confidence intervals are examined and sample sizes explored. Interview	Survey findings showed that since the redevelopment it had impacted their family negatively (73%). 41% felt unsettled or neglected or unsafe; 44% had experienced or were experiencing personal or family stress, fear, uncertainty, ill-health, family breakdown. Consultation and participation: 90% felt they had had no involvement so far; 97% felt that they had had no control over the process so far; 95% believed that they would have no opportunity to influence the redevelopment process in the future. Full results are shown in text. Overall findings (reporting on the observations in addition to survey) showed that "a case by case approach is needed, not a one-size fits all strategy" with a more open agenda and flexibility. More detailed exploration of the issues of partnership with local residents was highlighted (pg26). Trust must be rebuilt before	75%

			workshops were conducted with students and families in the regeneration area Years: 2002-2005		framework for survey is provided. Details of methods and results of the workshops and focus groups are discussed as a narrative throughout the report. Methodological details of the observations are not discussed at length However, the researcher details her own involvement with the residents and commitment to the project over time.	partnership can begin. "Adequate time and resources and an honest approach for proper consultation or information is stated. Working closely with the different 'communities' within the estate to understand the issues and development the right solutions; an open agenda and a willingness to share power and control if the process is participation; honesty at all times about the type of process residents are engaged in" (pg170)	
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WILLIAMS, J. A. 1969	Austin, USA (area undergoing renewal)	To examine the effects of urban renewal on residents forced to relocate	Quantitative Data collection methods: a random sample of 267 households designated for renewal in 1957. Interviews with the 95 households were carried out. Years: not stated	Study sample characteristics: Annual Household Income \$0,000-1,999 24.5%; 2,000-2,999 15.8%; ;3,000-3,999 13.3%; 4,000-4,999 9.9%; 5,000 and above 36.5% Occupational Status of Household Head In job training 1 . 1%; Retired 22.6% Disabled, unable to work 5.3%;Unskilled workers 39.8%;Semiskilled workers 14.0%;Skilled workers 4.3%;Clerical and sales 4.3% Small business owners, minor professionals 7.5% Lesser professionals 1 . 1% Education of Household Head 0- 6 years 25.9%;7-11 years 31.2%;High school graduate 26.9%;Some college training 12.9% College graduate or above 1.1%;Not ascertained 2.2% Marital Status of Household Head Single 1.1%;Married 39.8%;Separated or divorced 25.9%;Widowed 33.3%	Data analysis: not stated	Approximately 1/3 of participants did not receive a decent home when relocated. Residents take on financial burdens as the rent of new home is higher. No change in physical characteristics of area and either no change or worse access to amenities in the new area. Majority of residents saw no change in the social characteristics of the new area. Yet over double the number of residents who thought the old area was better (between 6-11%) felt the new neighbourhood was more honest (19%) and a better place to bring up children (22%).Relocation resulted in respondents describing a loss of community(26% of sample) and disruption to established social ties. However those who had moved within 1 mile of their old neighbourhood still saw their relatives once a week. Involvement in local groups was not highly prevalent thus mostly unaffected with the exception of church. 1/3 of the sample felt attending church was now more difficult.	50%
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APPENDIX E: Critical appraisal tool and full criteria (Pace et al., 2012)



Mixed Methods Appraisal Tool (MMAT) – Version 2011

For dissemination, application, and feedback: Please contact pierre.pluye@mcgill.ca, Department of Family Medicine, McGill University, Canada.

The MMAT is comprised of two parts (see below): criteria (Part I) and tutorial (Part II). While the content validity and the reliability of the pilot version of the MMAT have been examined, this critical appraisal tool is still in development. Thus, the MMAT must be used with caution, and users' feedback is appreciated. Cite the present version as follows.

Pluye, P., Robert, E., Cargo, M., Bartlett, G., O'Cathain, A., Griffiths, F., Boardman, F., Gagnon, M.P., & Rousseau, M.C. (2011). *Proposal: A mixed methods appraisal tool for systematic mixed studies reviews*. Retrieved on [date] from <http://mixedmethodsappraisaltoolpublic.pbworks.com>. Archived by WebCite® at <http://www.webcitation.org/5tTRTc9vJ>

Purpose: The MMAT has been designed for the appraisal stage of complex systematic literature reviews that include qualitative, quantitative and mixed methods studies (mixed studies reviews). The MMAT permits to concomitantly appraise and describe the methodological quality for three methodological domains: mixed, qualitative and quantitative (subdivided into three sub-domains: randomized controlled, non-randomized, and descriptive). Therefore, using the MMAT requires experience or training in these domains. E.g., MMAT users may be helped by a colleague with specific expertise when needed. The MMAT allows the appraisal of most common types of study methodology and design. For appraising a qualitative study, use section 1 of the MMAT. For a quantitative study, use section 2 or 3 or 4, for randomized controlled, non-randomized, and descriptive studies, respectively. For a mixed methods study, use section 1 for appraising the qualitative component, the appropriate section for the quantitative component (2 or 3 or 4), and section 5 for the mixed methods component. For each relevant study selected for a systematic mixed studies review, the methodological quality can then be described using the corresponding criteria. This may lead to exclude studies with lowest quality from the synthesis, or to consider the quality of studies for contrasting their results (e.g., low quality vs. high).

Scoring metrics: For each retained study, an overall quality score may be not informative (in comparison to a descriptive summary using MMAT criteria), but might be calculated using the MMAT. Since there are only a few criteria for each domain, the score can be presented using descriptors such as *, **, ***, and ****. For qualitative and quantitative studies, this score can be the number of criteria met divided by four (scores varying from 25% (*) -one criterion met- to 100% (****) -all criteria met-). For mixed methods research studies, the premise is that the overall quality of a combination cannot exceed the quality of its weakest component. Thus, the overall quality score is the lowest score of the study components. The score is 25% (*) when $QUAL=1$ or $QUAN=1$ or $MM=0$; it is 50% (**) when $QUAL=2$ or $QUAN=2$ or $MM=1$; it is 75% (***) when $QUAL=3$ or $QUAN=3$ or $MM=2$; and it is 100% (****) when $QUAL=4$ and $QUAN=4$ and $MM=3$ (QUAL being the score of the qualitative component; QUAN the score of the quantitative component; and MM the score of the mixed methods component).

Rationale: There are general criteria for planning, designing and reporting mixed methods research (Creswell and Plano Clark, 2010), but there is no consensus on key specific criteria for appraising the methodological quality of mixed methods studies (O'Cathain, Murphy and Nicholl, 2008). Based on a critical examination of 17 health-related systematic mixed studies reviews, an initial 15-criteria version of MMAT was proposed (Pluye, Gagnon, Griffiths and Johnson-Lafleur, 2009). This was pilot tested in 2009. Two raters assessed 29 studies using the pilot MMAT criteria and tutorial (Pace, Pluye, Bartlett, Macaulay et al., 2010). Based on this pilot exercise, it is anticipated that applying MMAT may take on average 15 minutes per study (hence efficient), and that the Intra-Class Correlation might be around 0.8 (hence reliable). The present 2011 revision is based on feedback from four workshops, and a comprehensive framework for assessing the quality of mixed methods research (O'Cathain, 2010).

Conclusion: The MMAT has been designed to appraise the *methodological quality* of the studies retained for a systematic mixed studies review, not the quality of their *reporting* (writing). This distinction is important, as good research may not be 'well' reported. If reviewers want to genuinely assess the former, companion papers and research reports should be collected when some criteria are not met, and authors of the corresponding publications should be contacted for additional information. Collecting additional data is usually necessary to appraise *qualitative research and mixed methods studies*, as there are no uniform standards for reporting study characteristics in these domains (www.equator-network.org), in contrast, e.g., to the CONSORT statement for reporting randomized controlled trials (www.consort-statement.org).

Authors and contributors: Pierre Pluye¹, Marie-Pierre Gagnon², Frances Griffiths³ and Janique Johnson-Lafleur¹ proposed an initial version of MMAT criteria (Pluye et al., 2009). Romina Pace¹ and Pierre Pluye¹ led the pilot test. Gillian Bartlett¹, Belinda Nicolau⁴, Robbyn Seller¹, Justin Jagosh¹, Jon Salsberg¹ and Ann Macaulay¹ contributed to the pilot work (Pace et al., 2010). Pierre Pluye¹, Émilie Robert⁵, Margaret Cargo⁶, Alicia O'Cathain⁷, Frances Griffiths³, Felicity Boardman³, Marie-Pierre Gagnon², Gillian Bartlett¹, and Marie-Claude Rousseau⁸ contributed to the present 2011 version.

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PART I. MMAT criteria & one-page template (to be included in appraisal forms)

Types of mixed methods study components or primary studies	Methodological quality criteria (see tutorial for definitions and examples)	Responses			
		Yes	No	Can't tell	Comments
Screening questions (for all types)	• Are there clear qualitative and quantitative research questions (or objectives*), or a clear mixed methods question (or objective*)?				
	• Do the collected data allow address the research question (objective)? E.g., consider whether the follow-up period is long enough for the outcome to occur (for longitudinal studies or study components).				
<i>Further appraisal may be not feasible or appropriate when the answer is 'No' or 'Can't tell' to one or both screening questions.</i>					
1. Qualitative	1.1. Are the sources of qualitative data (archives, documents, informants, observations) relevant to address the research question (objective)?				
	1.2. Is the process for analyzing qualitative data relevant to address the research question (objective)?				
	1.3. Is appropriate consideration given to how findings relate to the context, e.g., the setting, in which the data were collected?				
	1.4. Is appropriate consideration given to how findings relate to researchers' influence, e.g., through their interactions with participants?				
2. Quantitative randomized controlled (trials)	2.1. Is there a clear description of the randomization (or an appropriate sequence generation)?				
	2.2. Is there a clear description of the allocation concealment (or blinding when applicable)?				
	2.3. Are there complete outcome data (80% or above)?				
	2.4. Is there low withdrawal/drop-out (below 20%)?				
3. Quantitative non-randomized	3.1. Are participants (organizations) recruited in a way that minimizes selection bias?				
	3.2. Are measurements appropriate (clear origin, or validity known, or standard instrument; and absence of contamination between groups when appropriate) regarding the exposure/intervention and outcomes?				
	3.3. In the groups being compared (exposed vs. non-exposed; with intervention vs. without; cases vs. controls), are the participants comparable, or do researchers take into account (control for) the difference between these groups?				
	3.4. Are there complete outcome data (80% or above), and, when applicable, an acceptable response rate (60% or above), or an acceptable follow-up rate for cohort studies (depending on the duration of follow-up)?				
4. Quantitative descriptive	4.1. Is the sampling strategy relevant to address the quantitative research question (quantitative aspect of the mixed methods question)?				
	4.2. Is the sample representative of the population understudy?				
	4.3. Are measurements appropriate (clear origin, or validity known, or standard instrument)?				
	4.4. Is there an acceptable response rate (60% or above)?				
5. Mixed methods	5.1. Is the mixed methods research design relevant to address the qualitative and quantitative research questions (or objectives), or the qualitative and quantitative aspects of the mixed methods question (or objective)?				
	5.2. Is the integration of qualitative and quantitative data (or results*) relevant to address the research question (objective)?				
	5.3. Is appropriate consideration given to the limitations associated with this integration, e.g., the divergence of qualitative and quantitative data (or results*) in a triangulation design?				
<i>Criteria for the qualitative component (1.1 to 1.4), and appropriate criteria for the quantitative component (2.1 to 2.4, or 3.1 to 3.4, or 4.1 to 4.4), must be also applied.</i>					

*These two items are not considered as double-barreled items since in mixed methods research, (1) there may be research questions (quantitative research) or research objectives (qualitative research), and (2) data may be integrated, and/or qualitative findings and quantitative results can be integrated.

PART II. MMAT tutorial

Types of mixed methods study components or primary studies	Methodological quality criteria
<p>I. Qualitative</p> <p>Common types of qualitative research methodology include:</p> <p>A. Ethnography The aim of the study is to describe and interpret the shared cultural behaviour of a group of individuals.</p> <p>B. Phenomenology The study focuses on the subjective experiences and interpretations of a phenomenon encountered by individuals.</p> <p>C. Narrative The study analyzes life experiences of an individual or a group.</p> <p>D. Grounded theory Generation of theory from data in the process of conducting research (data collection occurs first).</p> <p>E. Case study In-depth exploration and/or explanation of issues intrinsic to a particular case. A case can be anything from a decision-making process, to a person, an organization, or a country.</p> <p>F. Qualitative description There is no specific methodology, but a qualitative data collection and analysis, e.g., in-depth interviews or focus groups, and hybrid thematic analysis (inductive and deductive).</p> <p>Key references: Creswell, 1998; Schwandt, 2001; Sandelowski, 2010.</p>	<p>I.1. Are the sources of qualitative data (archives, documents, informants, observations) relevant to address the research question (objective)?</p> <p>E.g., consider whether (a) the selection of the participants is clear, and appropriate to collect relevant and rich data; and (b) reasons why certain potential participants chose not to participate are explained.</p> <hr/> <p>I.2. Is the process for analyzing qualitative data relevant to address the research question (objective)?</p> <p>E.g., consider whether (a) the method of data collection is clear (in depth interviews and/or group interviews, and/or observations and/or documentary sources); (b) the form of the data is clear (tape recording, video material, and/or field notes for instance); (c) changes are explained when methods are altered during the study; and (d) the qualitative data analysis addresses the question.</p> <hr/> <p>I.3. Is appropriate consideration given to how findings relate to the context, e.g., the setting, in which the data were collected? *</p> <p>E.g., consider whether the study context and how findings relate to the context or characteristics of the context are explained (how findings are influenced by or influence the context). “For example, a researcher wishing to observe care in an acute hospital around the clock may not be able to study more than one hospital. (...) Here, it is essential to take care to describe the context and particulars of the case [the hospital] and to flag up for the reader the similarities and differences between the case and other settings of the same type” (Mays & Pope, 1995).</p> <p>The notion of context may be conceived in different ways depending on the approach (methodology) tradition.</p> <hr/> <p>I.4. Is appropriate consideration given to how findings relate to researchers’ influence, e.g., through their interactions with participants? *</p> <p>E.g., consider whether (a) researchers critically explain how findings relate to their perspective, role, and interactions with participants (how the research process is influenced by or influences the researcher); (b) researcher’s role is influential at all stages (formulation of a research question, data collection, data analysis and interpretation of findings); and (c) researchers explain their reaction to critical events that occurred during the study.</p> <p>The notion of reflexivity may be conceived in different ways depending on the approach (methodology) tradition. E.g., “at a minimum, researchers employing a generic approach [qualitative description] must explicitly identify their disciplinary affiliation, what brought them to the question, and the assumptions they make about the topic of interest” (Caelli, Ray & Mill, 2003, p. 5).</p>

Types of mixed methods study components or primary studies	Methodological quality criteria
<p>2. Quantitative randomized controlled (trials)</p> <p>Randomized controlled clinical trial: A clinical study in which individual participants are allocated to intervention or control groups by randomization (intervention assigned by researchers).</p> <p>Key references: Higgins & Green, 2008; Porta, 2008; Oxford Center for Evidence based medicine, 2009.</p>	<p>2.1. Is there a clear description of the randomization (or an appropriate sequence generation)?</p> <p>In a randomized controlled trial, the allocation of a participant (or a data collection unit, e.g., a school) into the intervention or control group is based solely on chance, and researchers describe how the randomization schedule is generated. "A simple statement such as 'we randomly allocated' or 'using a randomized design' is insufficient".</p> <p><i>Simple randomization:</i> Allocation of participants to groups by chance by following a predetermined plan/sequence. "Usually it is achieved by referring to a published list of random numbers, or to a list of random assignments generated by a computer".</p> <p><i>Sequence generation:</i> "The rule for allocating interventions to participants must be specified, based on some chance (random) process". Researchers provide sufficient detail to allow a readers' appraisal of whether it produces comparable groups. E.g., blocked randomization (to ensure particular allocation ratios to the intervention groups), or stratified randomization (randomization performed separately within strata), or minimization (to make small groups closely similar with respect to several characteristics).</p>
	<p>2.2. Is there a clear description of the allocation concealment (or blinding when applicable)?</p> <p><i>The allocation concealment protects assignment sequence until allocation.</i> E.g., researchers and participants are unaware of the assignment sequence up to the point of allocation. E.g., group assignment is concealed in opaque envelopes until allocation.</p> <p><i>The blinding protects assignment sequence after allocation.</i> E.g., researchers and/or participants are unaware of the group a participant is allocated to during the course of the study.</p>
	<p>2.3. Are there complete outcome data (80% or above)?</p> <p>E.g., almost all the participants contributed to almost all measures.</p>
	<p>2.4. Is there low withdrawal/drop-out (below 20%)?</p> <p>E.g., almost all the participants completed the study.</p>

Types of mixed methods study components or primary studies	Methodological quality criteria
<p>3. Quantitative non-randomized</p> <p>Common types of design include (A) non-randomized controlled trials, and (B-C-D) observational analytic study or component where the intervention/exposure is defined/assessed, but not assigned by researchers.</p> <p>A. Non-randomized controlled trials The intervention is assigned by researchers, but there is no randomization, e.g., a pseudo-randomization. A non-random method of allocation is not reliable in producing alone similar groups.</p> <p>B. Cohort study Subsets of a defined population are assessed as exposed, not exposed, or exposed at different degrees to factors of interest. Participants are followed over time to determine if an outcome occurs (prospective longitudinal).</p> <p>C. Case-control study Cases, e.g., patients, associated with a certain outcome are selected, alongside a corresponding group of controls. Data is collected on whether cases and controls were exposed to the factor under study (retrospective).</p> <p>D. Cross-sectional analytic study At one particular time, the relationship between health-related characteristics (outcome) and other factors (intervention/exposure) is examined. E.g., the frequency of outcomes is compared in different population sub-groups according to the presence/absence (or level) of the intervention/exposure.</p> <p>Key references for observational analytic studies: Higgins & Green, 2008; Wells, Shea, O'Connell, Peterson, et al., 2009.</p>	<p>3.1. Are participants (organizations) recruited in a way that minimizes selection bias?</p> <p>At recruitment stage:</p> <p>For cohort studies, e.g., consider whether the exposed (or with intervention) and non-exposed (or without intervention) groups are recruited from the same population.</p> <p>For case-control studies, e.g., consider whether same inclusion and exclusion criteria were applied to cases and controls, and whether recruitment was done independently of the intervention or exposure status.</p> <p>For cross-sectional analytic studies, e.g., consider whether the sample is representative of the population.</p> <hr/> <p>3.2. Are measurements appropriate (clear origin, or validity known, or standard instrument; and absence of contamination between groups when appropriate) regarding the exposure/intervention and outcomes?</p> <p>At data collection stage:</p> <p>E.g., consider whether (a) the variables are clearly defined and accurately measured; (b) the measurements are justified and appropriate for answering the research question; and (c) the measurements reflect what they are supposed to measure.</p> <p>For non-randomized controlled trials, the intervention is assigned by researchers, and so consider whether there was absence/presence of a contamination. E.g., the control group may be indirectly exposed to the intervention through family or community relationships.</p> <hr/> <p>3.3. In the groups being compared (exposed vs. non-exposed; with intervention vs. without; cases vs. controls), are the participants comparable, or do researchers take into account (control for) the difference between these groups?</p> <p>At data analysis stage:</p> <p>For cohort, case-control and cross-sectional, e.g., consider whether (a) the most important factors are taken into account in the analysis; (b) a table lists key demographic information comparing both groups, and there are no obvious dissimilarities between groups that may account for any differences in outcomes, or dissimilarities are taken into account in the analysis.</p> <hr/> <p>3.4. Are there complete outcome data (80% or above), and, when applicable, an acceptable response rate (60% or above), or an acceptable follow-up rate for cohort studies (depending on the duration of follow-up)?</p>

Types of mixed methods study components or primary studies	Methodological quality criteria
<p>4. Quantitative descriptive studies</p> <p>Common types of design include single-group studies:</p> <p>A. Incidence or prevalence study without comparison group In a defined population at one particular time, what is happening in a population, e.g., frequencies of factors (importance of problems), is described (portrayed).</p> <p>B. Case series A collection of individuals with similar characteristics are used to describe an outcome.</p> <p>C. Case report An individual or a group with a unique/unusual outcome is described in details.</p> <p>Key references: Critical Appraisal Skills Programme, 2009; Draugalis, Coons & Plaza, 2008.</p>	<p>4.1. Is the sampling strategy relevant to address the quantitative research question (quantitative aspect of the mixed methods question)?</p> <p>E.g., consider whether (a) the source of sample is relevant to the population under study; (b) when appropriate, there is a standard procedure for sampling, and the sample size is justified (using power calculation for instance).</p>
	<p>4.2. Is the sample representative of the population understudy?</p> <p>E.g., consider whether (a) inclusion and exclusion criteria are explained; and (b) reasons why certain eligible individuals chose not to participate are explained.</p>
	<p>4.3. Are measurements appropriate (clear origin, or validity known, or standard instrument)?</p> <p>E.g., consider whether (a) the variables are clearly defined and accurately measured; (b) measurements are justified and appropriate for answering the research question; and (c) the measurements reflect what they are supposed to measure.</p>
	<p>4.4. Is there an acceptable response rate (60% or above)?</p> <p>The response rate is not pertinent for case series and case report. E.g., there is no expectation that a case series would include all patients in a similar situation.</p>

Types of mixed methods study components or primary studies	Methodological quality criteria
<p>5. Mixed methods</p> <p>Common types of design include:</p> <p>A. Sequential explanatory design The quantitative component is followed by the qualitative. The purpose is to explain quantitative results using qualitative findings. E.g., the quantitative results guide the selection of qualitative data sources and data collection, and the qualitative findings contribute to the interpretation of quantitative results.</p> <p>B. Sequential exploratory design The qualitative component is followed by the quantitative. The purpose is to explore, develop and test an instrument (or taxonomy), or a conceptual framework (or theoretical model). E.g., the qualitative findings inform the quantitative data collection, and the quantitative results allow a generalization of the qualitative findings.</p> <p>C. Triangulation design The qualitative and quantitative components are concomitant. The purpose is to examine the same phenomenon by interpreting qualitative and quantitative results (bringing data analysis together at the interpretation stage), or by integrating qualitative and quantitative datasets (e.g., data on same cases), or by transforming data (e.g., quantization of qualitative data).</p> <p>D. Embedded design The qualitative and quantitative components are concomitant. The purpose is to support a qualitative study with a quantitative sub-study (measures), or to better understand a specific issue of a quantitative study using a qualitative sub-study, e.g., the efficacy or the implementation of an intervention based on the views of participants.</p> <p>Key references: Creswell & Plano Clark, 2007; O’Cathain, 2010.</p>	<p>5.1. Is the mixed methods research design relevant to address the qualitative and quantitative research questions (or objectives), or the qualitative and quantitative aspects of the mixed methods question (or objective)?</p> <p>E.g., the rationale for integrating qualitative and quantitative methods to answer the research question is explained.</p> <p>5.2. Is the integration of qualitative and quantitative data (or results) relevant to address the research question (objective)?</p> <p>E.g., there is evidence that data gathered by both research methods was brought together to form a complete picture, and answer the research question; authors explain when integration occurred (during the data collection-analysis or/and during the interpretation of qualitative and quantitative results); they explain how integration occurred and who participated in this integration.</p> <p>5.3. Is appropriate consideration given to the limitations associated with this integration, e.g., the divergence of qualitative and quantitative data (or results)?</p>

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APPENDIX F: Critical appraisal (MMAT) of included studies

Qualitative studies

Resource Name	Screening Questions - All types		Qualitative				Score
Resource Name	Are there clear qualitative and quantitative research questions (or objectives), or a clear mixed methods question (or objective)?	Do the collected data allow/address the research question (objective)?	Are the sources of qualitative data relevant to address the research question (objective)?	Is the process for analyzing qualitative data relevant to address the research question (objective)?	Is appropriate consideration given to how the findings relate to the context?	Is appropriate consideration given to how findings relate to researchers' influence?	
ADAMSON, D. & BROMILEY, R. 2008. <i>Community empowerment in practice: lessons from Communities First</i> , Joseph Rowntree Foundation. On JRF website	Yes - qualitative research question of the study is to consider the experience of community members who have become involved in the Communities First programme and its pattern of community empowerment	Yes - uses 9 case studies to examine whether community empowerment can be fostered through regeneration policy and influence changes made - communities first programme in Wales	Yes - methodology is included and stated as semi-structured interviews with key stakeholders (n=51) in the case study localities. A group discussion (focus group) with community members per study area was also conducted	No - data analysis plans are not stated, nor are the dates of the interviewed	Yes- the study includes consideration of the range of factors that are external to the study areas, the UK policy context is detailed, wider factors and the impact of the intervention is all included. It considers the case studies areas and how they can be compared to	No - details of potential bias or influence on findings by the research team is not disclosed. There is no discussion of how the project may have been influenced by the researchers own personal viewpoint	50%

					other areas undergoing regeneration and future policy recommendations		
ALLEN, J. O., ALAIMO, K., ELAM, D. & PERRY, E. 2008. Growing vegetables and values: Benefits of neighborhood-based community gardens for youth development and nutrition. <i>Journal of Hunger and Environmental Nutrition</i>, 3, 418-439.	Yes - qualitative findings reported here to examine if community gardening and beautification projects as a form regeneration can improve youth engagement and health (fresh produce accessibility)	Yes - refers to adolescents response to urban regeneration through 2 community gardens and provides participant observation, photography, and interviews with youth, gardeners, other neighborhood residents, and Flint community police officers to understand youth engagement	Yes - participant observation, photography and interviews) The participants chosen are clearly stated to provide an overall understanding of the study areas and youth engagement (both first hand and other community members/officials	Yes - The interview schedule, techniques and coding is stated. Focus groups are referred to, as are participant observations. The photography initially stated is not drawn upon. Thematic analysis and coding conducted. Once the texts had been coded, 10% of the text was checked for coding comprehensiveness and inter-coder consistency.	Yes- Authors acknowledge the limitations to their study - it is not representative to all urban community gardens worldwide. Also, data regarding those youth who had previously dropped out of the gardens programmes before this research were not contacted or, included in any interview discussions. Authors maintain that they included interviews from a number of perspectives to ensure they captured relevant information to this context.	Yes - there is acknowledgment of researchers influence. Thus, all interviews were confidential and key participants and stakeholders were involved throughout the coding and analysis to ensure accuracy and lack of bias is were maintained.	100%

<p>Blakeley,G. and Evans,B. 2009. Who participates, how and why in urban regeneration projects? The case of the new 'city' of East Manchester. <i>Social Policy & Administration</i>. 43(1), 15-32.</p>	<p>Yes- qualitative research questions on what motivates people to participate in urban regeneration projects and what keeps them interested/motivated in participating.</p>	<p>Yes- an ethnographic methodology was chosen. A survey was created with the aide of local residents. Semi-structured interviews with local residents of an area undergoing regeneration were carried out, along with some participant observations by the researchers. The narrative approach adopted allowed for the residents to use "their own language" to describe their experiences. Tries to highlight why people can feel empowered or perhaps chose not to be involved in regeneration.</p>	<p>No - the exact selection process of participants is not explained beyond the 15 community activists interviews who were identified from researchers attending a number of community group meetings.</p> <p>Following details: Survey participants: local residents (28.6 % were involved in a Tenants' and Residents' Association, 20.3 % in Homewatch and 22.5 % in neighbourhood planning).</p>	<p>No- beyond a brief description that transcripts of the interviews were created by the researchers, no other methodology of the analysis process is highlighted.</p>	<p>Yes- the context of the project is described and there is a description of the current evidence in the literature and what these findings add to the evidence.</p>	<p>No- there is no discussion on researchers influence over findings.</p>	<p>50%</p>
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<p>BOWIE, J., FARFEL, M. & MORAN, H. 2005. Community experiences and perceptions related to demolition and gut rehabilitation of houses for urban redevelopment. Journal of Urban Health-Bulletin of the New York Academy of Medicine, 82, 532-542.</p>	<p>Yes- qualitative research question clearly states that the aims to more fully explore and understand community perceptions of and experiences with urban renewal activities and to involve the community in the development of approaches to address their concerns</p>	<p>Yes - the focus groups were conducted with residents of areas experiencing urban regeneration programmes to answer the research question</p>	<p>Yes - the recruitment for the focus groups and the iterative nature (choosing a mixed male/female group following the initial focus groups not yield any specialist information/trends) is discussed. Furthermore, the research describes the recruitment process with partners</p>	<p>Yes - analysis plan is described and data -collection methods are shown (raw transcription data, type observer/record er notes, answers to the brief written questions).</p>	<p>Yes - the discussion considers wider urban renewal and recommendations for the improvement of regeneration practices. Furthermore, the study area is briefly introduced in relation to other US cities.</p>	<p>Yes - the researcher outlines limitations of the study stating that choice of facilitator and note-takers and observers throughout the study could lead to influence the outcomes of the study</p>	<p>100%</p>
<p>Colenutt, B. & Cutten, A. 1994. Community empowerment in urban regeneration. Barrow Cadbury Fund Limited: United Kingdom.</p>	<p>Yes - qualitative questions on the presence of empowerment in urban regeneration/policy. Case Study examples are drawn upon to explore the notion of community as partner in regeneration. The report also examines the wider implications of</p>	<p>Yes- interviews with members of community regeneration projects were undertaken throughout 1993 and 1994. These were with community members and individuals or organisations who had some involvement in community development in inner city areas.</p>	<p>Can't tell- the areas and interviews are relevant to the review question as they allow for community empowerment to be explored from different angles. However, the selection of individuals for interviews is not clarified, nor is the selection of the case studies examined.</p>	<p>Can't tell- the details for analysis of interviews and incorporation of case studies findings is not explained in detail.</p>	<p>Yes- the report looks at community empowerment in UK urban policy in detail and the context of each case study is described.</p>	<p>Can't tell- influence of researchers on the findings is not discussed.</p>	<p>25%</p>

	empowerment in regeneration and attempts to draw out further proposals for the restructuring of urban policy.						
DEPTFORD CITY CHALLENGE EVALUATION PROJECT 1994. Deptford City Challenge Community empowerment. London: Goldsmiths College.	Yes- the evaluation project addresses qualitative questions on how community empowerment has been addressed and possibly achieved during the City Challenge urban regeneration programme. They identify whether the community has been successfully made into a partner in the process of successfully achieving bids and implementing the programme.	Yes - the focus groups, participant observations, interviews and literature reviews all address the role of community and community empowerment within the urban regeneration process. These different data sources allowed the research team to address various issues that may arise within the urban regeneration programmes. The data was longitudinal and thus, could reflect on different processes and points of the	Can't tell - the exact methodology and selection process is not disclosed.	Can't tell - the details of the analysis process is not fully explained.	Yes- the project does explore the idea of 'community' in deptford and profiles the community to explain the 'context' of the research and urban regeneration.	Can't tell - information on possible influence is not disclosed	25%

		programme.					
Gosling, V.K. 2008. Regenerating Communities: Women's Experiences of Urban Regeneration. <i>Urban Studies</i>,, 45(3), 607-626.	Yes- qualitative use of participant observation, interviews and focus groups with women living in an estate undergoing regeneration	Yes - the interviews took place throughout the regeneration thus asking about the women's experiences of regeneration	Yes - the interviews cover relevant topics and themes- discuss the importance of community and networks and stress, exclusion and isolation caused by the process	Can't tell- the dissemination and coding is not disclosed	Yes- contextual information of the estate is provided	Can't tell - this is not disclosed	50%

<p>Hibbitt, K., Jones,P., and Meegan,R. 2001. Tackling Social Exclusion: The Role of Social Capital in Urban Regeneration on Merseyside - From Mistrust to Trust? <i>European Planning Studies</i>, 9(2), 141-161.</p>	<p>Can't tell - examines partnerships within a regeneration programme yet unclear how the information has been collected. Appears descriptive or potential participatory observation.</p>	<p>Yes- refers to community involvement and experiences in urban regeneration</p>	<p>Yes - the articles discusses the experiences within different study areas - how partnerships, relationships and power structures between different sectors/groups can play a part in urban regeneration</p>	<p>Can't tell - methods are not disclosed in the text</p>	<p>Yes- context of the study in terms of previous policy and practice is discussed</p>	<p>Can't tell - again methods and limitations are not discussed</p>	<p>50%</p>
<p>Keene, D.E., and Ruel, E. 2013. "Everyone called me grandma": Public housing demolition and relocation among older adults in Atlanta. <i>Cities</i>. 35, 359-364.</p>	<p>Yes - to examine qualitative data from interviews - look at how older residents experience loss of community/kinship through relocation</p>	<p>Yes- interviews before they move, 6months after and with a subset 8-13 months later. Thus, addressing longer term impacts to community power through 'social networks'</p>	<p>Yes - selection is clearly stated with participants selected randomly based on their age and length of time in home. This work looked at 15 interviews with those aged 55+ yrs however details of non-participants and drop outs were not included</p>	<p>Yes- methods clearly stated. Semi-structured interviews of approximately 70 minutes audio recorded and transcribed with 1st author and 2 colleagues. Analysis - modified grounded theory approach.</p>	<p>Yes - details of setting of Atlanta housing authority are provided</p>	<p>Can't tell- no details provided</p>	<p>75%</p>

<p>KHAKKEE, A. & KULLANDER, B. 2003. On our terms: ethnic minorities and neighbourhood development in two Swedish housing districts. In. F.L.Piccolo & H. Thomas (eds.) <i>Knights and castles: minorities and urban regeneration.</i> Ashgate; England.</p>	<p>Yes - qualitative research question exploring the participation and representation of minorities within an urban regeneration process</p>	<p>Yes - interviews are carried out with both national and foreign residents who are involved in the urban regeneration process as well as case studies of 2 study areas</p>	<p>Can't tell - 1 area uses interviews with different groups of individuals included in the policy process and actual undertaking of housing improvements and related issues. However methodology is not explained in full. The 2nd area's source of information is not provided</p>	<p>Can't tell - explicit details not given</p>	<p>Yes - the researchers provide background information of the current practices in Sweden especially highlighting details about the study areas. They also place these findings into the national context and seek to draw conclusions</p>	<p>No - details not provided</p>	<p>25%</p>
<p>Martin, M. 2007. Fighting for Control: Political Displacement in Atlanta's Gentrifying Neighbourhoods. <i>Urban Affairs Review.</i> 42, 603-628.</p>	<p>Yes- qualitative research question on the potential political displacement that could be experienced by communities and organisations as a result of gentrification.</p>	<p>Yes- interviews and non participant observations were conducted with individuals who live in neighbourhoods that have experienced economic decline and are either in the process of, or have finished, undergoing gentrification. This allows for lasting effects of</p>	<p>Can't tell- the author explains that they undertook a 'purposive' approach rather than a representative sample however, no details of this are given.</p>	<p>Can't tell- a brief description of the analysis is disclosed yet the full methods is not referred to in detail.</p>	<p>Yes- the author explains the context of the research in detail with descriptor/ characteristics of the study areas included.</p>	<p>Can't tell - no discussion of these issues is disclosed in the article.</p>	<p>25%</p>

		the gentrification.					
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<p>Mathers,J., Parry,J. and Jones,S. 2008. Exploring Resident (Non-)participation in the UK New Deal for Communities Regeneration Programme. <i>Urban Studies</i>. 45, 591-606.</p>	<p>Yes - an ethnographic study is undertaken to understand why and how residents resist participation in local regeneration initiatives. This is clearly stated from the outset of the research.</p>	<p>Yes- the research undertaken allowed the researchers to gain an 'holistic' appreciation of how residents relate to the NDC and its activities in their neighbourhood. They used participant observation with aide from a resident in the area acting as the initial point of contact (she was the field researcher in the project), informal discussions to overcome reluctance for formal interviews and a small number of in-depth interviews which were audio-recorded. The research was undertaken during the NDC programme.</p>	<p>Yes- the article explains the snowballing technique undertaken to contact participants currently living through regeneration. The authors also briefly describe how participants were reluctant, in the main, to undertake formal interviews and how the role of trust between interviewer and interviewee became of paramount importance.</p>	<p>Can't tell- the dissemination and coding is not disclosed in the article.</p>	<p>Yes- the context of the project is clearly described with history of participation within the NDC programme examined. The authors discuss the findings of the project within the wider context of the NDC programme and how they relate to this context.</p>	<p>Yes - limitations are highlighted and acknowledged with concerns over a homogeneous sampling techniques and the influence the researcher could have exerted over the results and the potential for lack of representative participants- compared to the diverse general population. The ability of the participants to relate her own experiences to the participants is also mentioned.</p>	<p>75%</p>
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<p>MCCARTHY, J. 1997. Lessons from East Berlin. <i>Housing Review</i>, 46, 129-131.</p>	<p>Yes - examine the experience of improvement and regeneration for communities in Berlin</p>	<p>Yes - study mentions attendance at tenant groups and creation of forums in order to examine community experience and involvement in regeneration efforts</p>	<p>Yes - the observations of community organisations and forums as part of an urban regeneration programme</p>	<p>Can't tell No specific indicators of the sources of information. More of a broad overview of the pilot</p>	<p>Yes - the study reflects on the context both prior to and after the regeneration programme.</p>	<p>No - there is no consideration of researcher influence on findings</p>	<p>50%</p>
<p>McWilliams, C. 2004. Including the Community in Local Regeneration? The Case of Greater Pollock Social Inclusion Partnership. <i>Local Economy</i>, 19(3). 264-275.</p>	<p>Yes - study uses qualitative data to look at whether local people involved in planning and its effects. Specific aims are: 2 key aims: 1 - To examine the extent to which community involvement under New Labour's social inclusion partnership (SIP) initiative is markedly different from the Conservative's most recent urban policy initiatives (e.g.</p>	<p>Yes- interviews and focus groups with local residents</p>	<p>Yes- ask how individuals feel about how policies to involved them in planning - not very involved, feel powerless and neglect to an extent</p>	<p>Can't tell - analysis process is not detailed</p>	<p>Yes - context of policies explored are discussed with historical background /setting of study area and previous experience of involvement . Also nationwide policy history is discussed.</p>	<p>Can't tell - no details are disclosed</p>	<p>50%</p>

	New Life for Urban Scotland and Priority Partnership Areas). 2 -to analyse the experience of community participation in the early stages of the Greater Pollok Social Inclusion Partnership (GP SIP)						
Muir,J., Rhodes,M.L. 2008. Vision and reality: community involvement in Irish urban regeneration. <i>Policy & Politics</i>. 36(4), 497-520.	Yes- the study examined the process and outcomes of community involvement in urban regeneration using case studies and interviews	Yes- the interviews with participants in involved community engagement processes in the 6 case studies of urban regeneration. Furthermore, the researchers used literature and documents and consulted an advisory group (researchers and practitioners) throughout the project.	Can't tell - research paper does not explain the selection of participants in detail	Can't tell - again the methodology is not explained in detail	Yes- the researchers provide clear background information of the case study areas and the theoretical framework of the research.	Yes- there is an acknowledgement of researchers and their potential different knowledge and personal backgrounds. The researchers developed an interview protocol and referred to the advisory group to ensure comparability across the interviews and case studies.	50%

<p>Pollock, V.L. and Sharp, J. 2012. Real Participation or the Tyranny of Participatory Practice? Public Art and Community Involvement in the Regeneration of the Raploch, Scotland. <i>Urban Studies</i>. 49(14), 3063-3079.</p>	<p>Yes- qualitative research question on the role of creating public art as part of the process of 'place-making'. The authors explore whether this type of regeneration project can be regarded as a type of 'empowering' projects in regeneration as suggested in previous policies and literature.</p>	<p>Yes - the authors state that " a three-year period of ethnographical research, qualitative interviews, photo elicitation, focus groups, questionnaires, and observation, conducted with direct participants and stakeholders in the art project and the wider community" was carried out. However, beyond this statement there are no details of this process.</p>	<p>Yes - Ethnographical research (interviews, photo elicitation, focus groups, questionnaires and observation) with direct participants and stakeholders were conducted. Provides insight to opinions and the overall success of the public art programme as an effort to engage with communities in regeneration areas</p>	<p>Can't tell - there are no details of the analysis process.</p>	<p>Yes- the findings and 'lessons' from the research are described in detail in relation to the national policy and the literature on empowerment theory and regeneration.</p>	<p>Can't tell - no discussion of possible influence over findings is entertained.</p>	<p>50%</p>
<p>Soen,D. 1981. Citizen and community participation in urban renewal and rehabilitation - comments on theory and practice. <i>Community development journal</i>. 16(2), 105-118.</p>	<p>Yes- theoretical discussion and case study on participation in urban renewal planning</p>	<p>Can't tell - details of source of information on the case study are not disclosed</p>	<p>Yes- case study looks at how community participation and involvement in an urban renewal programmed were carried out</p>	<p>Can't tell - no details are disclosed</p>	<p>Yes- context of urban renewal practice of community participation is discussed and what the case study adds to this evidence is mentioned</p>	<p>Can't tell - details are not mentioned</p>	<p>50%</p>

Quantitative studies

Resource Name	Screening Questions - All types		Quantitative				Score
Resource Name	Are there clear qualitative and quantitative research questions (or objectives), or a clear mixed methods question (or objective)?	Do the collected data allow/address the research question (objective)?	Is the sampling strategy relevant to assess the quantitative research question?	Is the sample representative of the population understudy?	Are measurements appropriate?	Is there an acceptable response rate (60% or above)?	
ALAIMO, K. T. M. A. J. O. 2010. Community gardening, neighborhood meetings, and social capital. <i>Journal of Community Psychology</i> , 38, 497-514.	Yes-quantitative findings and (descriptive) research questions aim at trying to depict the implications of neighbourhood beautification/ gardening projects on residents and participants perception of local social capital. "	Yes- the data was collected from a telephone survey of a random sample of residents within an area undergoing these beautification/ gardening projects. It is clearly stated that the research is cross-sectional and the research questions do not attempt to uncover any long-term implications of the programme.	Yes- the article refers to a process of ensuring adequate representation from all study areas (15 residents in each census tract). No power calculation is given	Yes-- there is consideration for ensuring representative results were produced. Random sampling from phone numbers was undertaken and to ensure that residents from all neighbourhoods in the study area were incorporated into the study.	Yes- the control and outcome variables are both clearly stated in the article and their validity has been tested in the project	Yes- it is stated that "at least 80% of the quota was reached for 107 Census block groups. A final sample of 1,916 (63.6%) eligible respondents reached by phone agreed to be interviewed".	100%

<p>Nienhaus, I., Dijk, T.V. and Roo, G.D. 2011. Let's Collaborate! But Who's Really Collaborating? Individual Interests as a Leitmotiv for Urban Renewal and Regeneration Strategies. <i>Planning Theory & Practice</i>, 12(1), 95-109.</p>	<p>Yes - research question examining the role that participants lifestyle and social participation in their neighbourhood has on their participation in renewal/regeneration interventions. They question the belief that lack of participation is due to disempowerment and explore other characteristics and attitudes that could affect people's aptitude to participate.</p>	<p>Yes - Questionnaires were distributed in 3 languages to make the project more accessible to residents of different ethnicities. The questionnaire asked participants of their previous involvement in neighbourhood projects, their attitude towards participation and how this attitude links to other personal characteristics and experiences in their neighbourhood.</p>	<p>Can't tell - no details of why participants were chosen and a power calculation was not conducted</p>	<p>Yes- the study outlines concerns for bias in their sample and an acknowledgment of distributing the survey in numerous languages and consideration of bias due to participant self-selection or illiteracy as a barrier for recruitment sample is mentioned.</p>	<p>Can't tell - the source of the 'soft variables' used to determine willingness to participate, sense of community and personal characteristics are not stated</p>	<p>No - response rate of 17.1% (856 randomly selected residents out of 22,390 inhabitants)</p>	<p>25%</p>
<p>Williams, J.A. 1969. The effects of urban renewal upon a black community: Evaluation and recommendations. <i>Social Sciences Quarterly</i>. 50(3), 703-712.</p>	<p>Yes- to examine whether recent changes in policy have addressed problems related to urban renewal when people have to relocate.</p>	<p>Yes- study examines an urban renewal programme that has been completed, interviewing individuals who have been relocated from an area due to urban</p>	<p>Yes- author indicates that a random sample of 267 households designated for renewal in 1957. Interviews with the 95 households were carried out.</p>	<p>Yes - highlights that attempts to assure validity were undertaken, pretesting schedule, duplicate interviewing, control group of neighbouring</p>	<p>Can't tell - data analysis process is not provided</p>	<p>No - response rate of 36% (95 households)</p>	<p>50%</p>

		renewal of that neighbourhood.		community and ethnic matching of interviewer/interviewee. Additionally, all interviewers judgements on quality of structures were compared to those of experts.			
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Mixed methods studies

Due to the size (width) of the critical appraisal sheet the following table has been transposed (horizontal to vertical). Read lengthwise.

		Resource Name			
		Allen, T. 2000. Housing Renewal - Doesn't it make you sick? <i>Housing Studies</i> . 15(3), 443-461.	Stubbs, J., Foreman, J., Goodwin, A., Storer, T. 2005. <i>Leaving Minto: A Study of the Social and Economic Impacts of Public Housing Estate Redevelopment</i> . Social Justice & Social Change Research Centre: Sydney.	Lawless, P. and Pearson, S. 2012. Outcomes from Community Engagement in Urban Regeneration: Evidence from England's New Deal for Communities Programme. <i>Planning Theory & Practice</i> , 13(4), 509-527.	MUIR, J. 2004. Public participation in area-based urban regeneration programmes. <i>Housing Studies</i> , 19, 947-966.

Screening	Are there clear qualitative and quantitative research questions (or objectives), or a clear mixed methods question (or objective)?	Yes - mixed methods exploring how experience of urban regeneration can impact on individuals health and their experience of control in the process	Yes - qualitative research question on the short and long-term social and economic impacts of urban renewal (demolition and displacement) on the residents. Furthermore, the report aims to provide an understanding of the decisions/processes of urban renewal and highlight the opinions of the residents to policy makers.	Yes - the article presents the evidence to answer 3 research questions. Firstly, did NDC areas see more change across community indicators; did areas where more effort was placed on community engagement see more changes and lastly, did those who were involved in NDC activities experience more change than those who were not involved. These were mixed methods questions of possible changes across neighbourhoods that occur during the New Deal for Communities area based initiatives being rolled out across 39 areas in the UK.	Yes - the study states that it aims to report findings on the promotion of public participation in urban regeneration in both parts of Ireland. The study states the role of the mixed methods it applies for this overall aim
	Do the collected data allow/address the research question (objective)?	Yes - a narrative interview technique called interpretative biography with 16 residents was conducted before the renewal and then a follow up was conducted 6 months after the work had	Yes- a participatory approach was taken by the research team with local community groups engaged in the regeneration process. The researcher and the resident action group created the main research tool	Yes- the survey data collection is longitudinal from 2002-2008 (the NCD was initiated in 1998) thus allowing changes that may have resulted from the regeneration programme and their	Yes - the research methods and wide range of methods were chosen to help ensure that multiple sources of evidence were used to establish reliability

		<p>been carried out. Additionally, a survey with residents whose homes were undergoing home refurbishment.</p>	<p>together - the resident survey. This was to ensure the survey addressed the processes and concerns of the residents. Furthermore, the researcher explains how a long-term participatory approach was taken by herself to ensure "more than a 'snapshot' and superficial view of a community in the process of massive and ongoing change is to be gained".</p>	<p>effect on community engagement to be captured and documented. Furthermore, case studies areas were identified to examine particular issues (worklessness for example).</p>	
<p>Qualitative</p>	<p>Are the sources of qualitative data relevant to address the research question (objective)?</p>	<p>Yes - The 16 people interviewed were all selected from those who completed the survey and indicated their willingness to take part. They were chosen to give a broad spread of household composition, and based on the amount of time they were likely to spend in their home</p>	<p>Yes- the report outlines the methodology undertaken with extensive engagement with the local residents. The research was taken whilst redevelopment was underway and thus, can address the review question on the impact urban regeneration has on empowerment.</p>	<p>Yes - the exact details of the qualitative sources are not referred to here but the reader is referred to additional sources which stipulate that there were evidence reviews, project reviews, data analysis and interviews. These are then detailed</p>	<p>Can't tell - the exact methodology and selection process is not disclosed.</p>

	<p>Is the process for analyzing qualitative data relevant to address the research question (objective)?</p>	<p>No - complete details for how the interviews were analysed beyond looking for patterns from the interpretative biography methods</p>	<p>Yes- the analysis process is detailed with confidence intervals examined and sample sizes explored. Also, the researcher details her own involvement with the residents and commitment to the project over time.</p>	<p>Yes - the additional sources outline the details of the qualitative research and their analysis in reference to particular issues (impact on education attainment, worklessness)</p>	<p>Can't tell - the analysis process is not fully detailed</p>
	<p>Is appropriate consideration given to how the findings relate to the context?</p>	<p>Yes - some consideration of context and the wider history of housing renewal schemes is included</p>	<p>Yes- the researcher details the history of the redevelopment plans and explores the policies affecting the study areas and nationally. A literature review on current evidence is provided. There is further discussion in the report on what these findings can add to policy with recommendations for future programmes.</p>	<p>Yes - context for each body of work is outlined and how it compares to other areas and can be taken forward/learnt from</p>	<p>Yes - the political and social context of both study areas is explored and detailed. The study refers to external factors beign influential on the process of urban renewal in the study areas</p>
	<p>Is appropriate consideration given to how findings relate to researchers' influence?</p>	<p>Yes-the researcher states that they never made any claims for representativeness and they may have presented some bias. However this acknowledgement is not discussed in detail</p>	<p>Yes- as previously outlined, the author states the processes of her involvement with the residents during the project.</p>	<p>No - full consideration of researcher bias is not provided</p>	<p>No - researcher's own influence is not considered in the paper and how they may have impacted the findings</p>

Quantitative	Is the sampling strategy relevant to assess the quantitative research question?	No details are disclosed	Yes - the survey interviewed those currently experiencing the development work. The sample was a form of stratified cluster sampling and a sample power calculation was conducted	Yes - the sample is comprised of residents undergoing regeneration in the NDC areas. Furthermore, a comparison study cohort is also detailed. However, a sample power calculation is not provided	No - a sampling strategy is not provided
	Is the sample representative of the population under study?	No details are provided	Yes - the study states that the target sample size was selected to ensure a level of confidence in the findings. The three precincts chosen for selecting participants from are detailed in the text, explaining why they were chosen	Can't tell - the inclusion and exclusion criteria is limited to residents living in NDC areas but no socio-demographic reasons or criteria are discussed. Not reported and for the comparator sample details of what a comparator area was limited to "deprived neighbourhoods in the same local authorities as NDCs, but in non-adjacent wards to avoid potential spill over effects"	Can't tell - the inclusion and exclusion criteria is not disclosed
	Are measurements appropriate?	No - only qualitative findings are presented in detail with little mention of the survey	Yes - the survey and its variables are included in the study report. They are clearly defined, as is the interview process for the survey	Yes - the additional information of the NDC survey outlines the data sources. The relevance of the survey measures are shown in the text as	Can't tell - no details of the questionnaires measures are provided

				the outcomes from the evaluation are discussed in turn	
	Is there an acceptable response rate (60% or above)?	No - this is not discussed	No - the study states that a sample 'slightly lower' than required was obtained	Yes - the research stipulates that an average response rate of 60% was reached across the survey years "Response rates averaged around 60% for all four surveys"	No - the response rate for the postal questionnaire is stated as 35%
Mixed Methods	Is the mixed methods research design relevant to address the qualitative and quantitative research questions (or objectives), or the qualitative and quantitative aspects of the mixed methods question (or objective)?	Yes- author states that surveys and interviews were conducted to provide descriptive information to set alongside secondary evidence from a local and national level.	Yes - the report outlines how the workshops and focus groups helped create the resident survey and how the researchers participatory experience and familiarity helped develop a sense of trust with resident interviewees to help answer the study questions	Yes- the surveys measure residents feelings towards community indicators to illustrate their engagement within the regeneration initiatives. The authors also describe their reason for local level qualitative work (interviews) in 6 of the NDC areas; to gain more insight into the changes experienced. This has the ability to potentially address any 'contamination' that could have occurred as individuals move throughout the areas thus not allowing the research to identify changes for those who	Yes - the rationale for the mixture of methods is provided by the researcher

				stay in regeneration areas clearly.	
	Is the integration of qualitative and quantitative data (or results) relevant to address the research question (objective)?	Can't tell- the paper focuses mainly on the qualitative data gathered in the interview process with only some inclusion of the survey data.	Yes - the authors clarify that the participatory approach helped inform the survey, access residents and local organisations and creates a 'genuine partnership' for the research. The integration is shown in the data collection phase in detail and provides context for the survey results	Can't tell- The article addresses the 3 research questions in turn using both the area-level and local-level data but there is no discussion of how the data was fully integrated with one another.	Can't tell - details of the integration of findings is not discussed
	Is appropriate consideration given to the limitations associated with this integration?	Can't tell- no information is disclosed.	No - this is not discussed in detail	Yes - there is discussion over the difference in findings between the survey data and the qualitative interview data and what may account for these changes.	No - details of limitations or any consideration of the integration of the study's findings are not fully disclosed
Score		0%	75%	75%	0%

APPENDIX G: Preliminary Synthesis extract

Author (year)	Location and setting	Study design	Participants	Focus of study	Method	Main findings
Muir and Rhodes (2008)	Belfast and Dublin – 3 case studies in each city which are all suffering from being socially excluded with high levels of poverty and poor housing conditions. 2 of the Belfast case studies are protestant and 1 catholic. Areas have varying levels of community strength/fragmentation.	Qualitative	26	To explore the vision and reality of community involvement in Irish urban regeneration	26 interviews – semi structured Conducted with participants taking part in community involvement processes	Where stakeholders and communities did not share a common vision- in 2 areas this resulted in stalemate did occur which was damaging to the project. However, where there was established history of community involvement, negotiation was possible. History of community involvement – networks, knowledge and skills already in existence makes them more capable to ensure their voice is heard. Access to resources through funding gave some communities greater access to knowledge, expertise etc. However the impact was not always easy to assess. Key individuals were important advocates of community interests. Trust in those implementing /facilitating was mentioned as an important factor ti positive reviews of urban renewal. In areas where the vision for the area was not favourable to both stakeholders and residents there was the potential for residents taking a stance against the programme, delaying the project or the state would take the lead and not interact with the community. Negotiation highlighted as a key element of successful regeneration with distribution of power between community and state. Not always equal but allowed communities to feel more involved. Consultation was more successful when an appreciation of the context is sought – building on existing networks.

Muir (2004)	Belfast and Dublin – 2 case studies in total	Qualitative	Interviewed 72 people, additional 2 group interviews and observation of 32 meetings were carried out (number of attendees not reported)	Public participation in urban regeneration in different contexts of interaction between state agencies and civil society.	Case study approach – interviews (unstructured and semi-structured individual and group), questionnaires, observation of 16 meetings , document and literature review	<p>Lack of appreciation of context of the regeneration impacted on the success of participation. Existing power relations led to dissent and hindered effective representation. Lack of transparency and trust issues caused some delays and were a factor in hindering representation of local interests. Where there was a stable relationship between civil society and the state, this was seen as a positive factor for the success of the programme.</p> <p>There is a need for an appreciation of external factors such as governance which can affect the process. There must be an understanding of existing networks, power relations and state-civil society interactions. Participation is a means for interaction between state and society yet behaviour and choices made are influenced by ideology. Additionally, external factors and other agendas must be taken into account when attempting to implement successful participation and programmes. Developing community capacity should be undertaken with a clear understanding of these issues (should be appropriate and reflect other factors).</p>
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APPENDIX H: Prisma Checklist

Section/topic	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	64
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	n/a
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known.	64
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	65
METHODS			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	n/a
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	77
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	72
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	72
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	77

Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	80
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	77
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	Appendix E - 335
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	n/a
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis.	89
Section/topic	#	Checklist item	Reported on page #
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	81
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	n/a
RESULTS			
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	79
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.	85
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).	Appendix F - 343
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.	85
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	n/a
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	104

Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	n/a
DISCUSSION			
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers).	104
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias).	103
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	n/a
FUNDING			
Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.	n/a – part of PhD stipend

APPENDIX I: GHA Consultation & engagement activities

Source: GHA (2008)

Methods	Individual affected tenant	All GHA tenants	RTOs	Local Housing Organisation Committees	Factored Home owners	Organisations representing 'hard to reach' groups	Statutory agencies
Letter/leaflet inviting response							
Information packs/policy summaries							
Information in Braille, large print, audio format and in other languages							
Individual face to face contact							
Public meetings							
Local surgeries							
Help line							
Road shows							
GHA newsletters – The Key & Factoring Matters							
Local Newsletters							
GHA website							
One off publications							
Advertising in local press							
Managers' Bulletin							
e-mail							
Intranet							
Meetings							
Customer Service Centre							
Forums (including Chairs' Forum, RTO Federation, Owners' Forum)							
Strategic Monitoring Groups							
Customer Review Teams							
Local open days, events							
Customer Engagement and RTO Events							
Customer surveys							
GHA Customer Panel							
Focus Groups							
Involvement in advisory/review groups							
Involvement in sub-committees							
Interactive Evaluation & Feedback cards							
Workshops							

APPENDIX J: GoWell Ethics Approval

Multi Centre Research Ethics
Committee for Scotland

Deaconess House
148 Pleasance
Edinburgh
EH8 9RS
Tel: 0131 536 9027
Fax: 0131 536 9346
chris.graham@lhb.scot.nhs.uk



4th January 2006

Professor Ade Kearns
Professor of Urban Studies
University of Glasgow
Department of Urban Studies
25 Bute Gardens
Glasgow
G12 8RS

cc – Carol Tannahill
Mark Petticrew
Phil Hanlon
Matt Egan

Dear Professor Kearns

Full title of study: The GoWell Programme. Glasgow Community Health and Well-Being Research and Learning Programme: Investigating the Impacts of Neighbourhood Change.
REC reference number: 05/MRE10/89

Thank you for your letter of 19 December 2005, responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by the Chair together with Dr A McCullough and Mrs J Munro.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised.

Ethical review of research sites

The Committee has designated this study as exempt from site-specific assessment (SSA). There is no requirement for Local Research Ethics Committees to be informed or for site-specific assessment to be carried out at each site.

Conditions of approval

The favourable opinion is given provided that you comply with the conditions set out in the attached document. You are advised to study the conditions carefully.

Multi Centre Research Ethics
Committee for Scotland

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

05/MRE10/89	~	Please quote this number on all correspondence
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Yours sincerely



PP **Professor Patricia Peattie**
Chair

Copy to: M Paul Ellis
University of Glasgow
Research and Enterprise,
10 The Square
Glasgow G12 8QQ

APPENDIX K: GoWell Cross-tabulations

	On your own, or with others, you can influence decisions affecting your local area				
	Strongly disagree	Disagree	No opinion / unsure	Agree	Strongly Agree
	%	%	%	%	%
Gender					
Male	9	21.4	28.9	35	5.7
Female	7.5	23.4	28.8	35.4	4.9
Age (years)					
16-24	13.1	18.8	34.4	31.2	2.6
25-39	9.6	24.6	31.3	30.2	4.3
40-54	9.1	24.2	25.7	35.9	5.1
55-64	6.2	22.7	25.6	40.5	5
65+	4.5	19.3	29.7	38.9	7.5
Relationship					
Not in a relationship	8.4	22.8	28.7	35	5.1
In a relationship	7.6	22.1	29.2	35.8	5.4
Long-term illness/ disability					
Yes	8.4	23	28.1	34.8	5.6
No	7.9	22.4	29.2	35.7	4.9
Employment					
Not in Education, Employment or Training (NEET)	10.3	22.9	29.6	32	5.2
Employed	7.6	24.1	27.2	37.2	3.9
Retired	4.9	20.4	29.2	38.9	6.7
Satisfaction with employment status					
Very dissatisfaction	14.18	23.95	25.67	28.93	7.28
Fairly dissatisfaction	8.2	27.44	29.34	33.44	1.58
Neither satisfied nor dissatisfied	6.88	22.27	31.58	36.44	2.83
Satisfied	6.16	21.36	27.52	37.51	7.44
Very satisfied	6.48	26.39	22.92	37.27	6.94
Citizenship status					
British Citizen - UK born	7.6	22.7	25.9	38.0	5.8
British Citizen- born outside UK	9.1	24.2	39.7	23.2	3.9
Indefinite leave to remain	10.8	25.7	35.1	27	1.4
Exceptional leave to remain	13	26.1	26.1	26.1	8.7
Applied for asylum- awaiting decision	12.6	17.2	48	20.7	1.5
Appealing refused asylum	20.8	25	37.5	16.7	0
EU passport holder	8.5	23.6	32.1	29.3	6.6
Length of time in area (years)					
Less than 1	10.1	19.9	39.7	26.1	4
1	7.7	19.9	37.6	30.9	3.9
2	7.8	23.1	33.2	34	2
3	17	23.3	31.8	23.3	4.5
4	11.5	22	32.5	27.8	6.2
5	7.3	20.2	28	40	4.7
6	8.3	26.6	30.3	30.3	4.6

7-10	9.4	26.5	25.3	32.6	6.3
11-20	6.8	23.5	28.2	35.4	6.1
21+	6.8	22	25.6	40.2	5.5
Length of time in home (years)					
Less than 1	10.02	21.72	36.75	27.68	3.82
1	8.28	20.69	32.76	34.14	4.14
2	7.87	24.93	32.81	31.76	2.62
3	13.47	22.46	31.74	28.44	3.89
4	9.60	22.29	27.86	33.13	7.12
5	6.64	19.93	27.68	39.48	6.27
6	8	27.43	23.43	35.43	5.71
7-10	6.94	25.62	24.02	38.79	4.63
11-20	7.85	22.60	25.85	37.75	5.95
21+	5.76	20.30	28.12	39.37	5.95
Overall satisfaction with housing services					
Very dissatisfaction	32.18	24.14	18.97	22.41	2.30
Fairly dissatisfaction	16.27	39.29	23.41	19.84	1.19
Neither satisfied nor dissatisfied	10.61	3.	28.98	26.94	3.47
Satisfied	5.63	20.27	31.03	38.54	4.53
Very satisfied	5.44	18.12	25.03	41	10.42
Overall satisfaction with current home					
Very dissatisfaction	21.6	33.9	21.6	19.4	3.5
Fairly dissatisfaction	17.9	32.4	25.9	22.2	1.5
Neither satisfied nor dissatisfied	10.8	29.7	31.7	24.9	2.8
Satisfied	5.7	20	32	37.7	4.5
Very satisfied	6	20.4	25.9	39.8	7.8
Overall satisfaction with neighbourhood					
Very dissatisfaction	32.6	34.1	19.7	13.3	0.4
Fairly dissatisfaction	11.7	37.5	28.4	20.7	1.7
Neither satisfied nor dissatisfied	11.2	31	30.5	24.8	2.6
Satisfied	5.4	20.7	30.4	38.9	4.7
Very satisfied	5.4	16.6	27.2	41.5	9.4
Sense of belonging to neighbourhood					
Not at all	24.6	27.1	31.3	15.1	2
Not very much	11.4	33.1	30.8	22.5	2.2
A fair amount	6.4	22.7	31	35.9	4.1
A great deal	5.2	18	25.3	43.5	8.1
Feel like part of the community					
Not at all	23.54	28.90	29.84	16.08	1.63
Not very much	10.27	34.20	32.77	21.46	1.3
A fair amount	6.17	21.47	29.95	38.17	4.24
A great deal	4.56	15.85	24.76	45.37	9.46
Extent of acquaintance with people in the neighbourhood					
No-one	13.29	29.48	39.31	17.34	0.58
Very few people	10.66	24.73	33.15	28.41	3.05

Some people	7.81	23.93	29.14	33.92	5.21
Many people	6.26	19.42	26.75	38.94	8.63
Most people	6.09	19.95	22.58	46	5.38
Take part in social clubs, associations, church groups or anything similar					
No	8.28	22.42	28.91	35.14	5.25
Yes	6.97	23.59	28.34	36.20	4.9
Geographical proximity of friends and family you meet regularly					
Do not meet friends or relatives regularly	11.01	26.15	32.57	27.52	2.75
Don't know	0	35	30	30	5
Mostly live outside your local area	7.92	24.03	30.5	32.01	5.54
About half and half	7.96	24.39	25.87	37.11	4.67
Most live locally	8.14	18.70	28.66	38.69	5.81

APPENDIX L: GoWell Survey Variables Coding

Variable Description	Coding	
On your own, or with others, you can influence decisions affecting the local area	0	Strongly disagree
	1	Disagree
	2	No opinion/unsure
	3	Agree
	4	Strongly agree
Respondent's gender		
Respondent's gender	0	Male
	1	Female
Respondent's age (yrs)		
Respondent's age (yrs)	0	16-24
	1	25-39
	2	40-54
	3	55-64
	4	65+
Long-term illness, disability or infirmity?		
Long-term illness, disability or infirmity?	0	Yes
	1	No
Time lived in current home (yrs)		
Time lived in current home (yrs)	0	Less than 1
	1	1
	2	2
	3	3
	4	4
	5	5
	6	6
	7	7-10
	8	11-20
	9	21+
Time lived in area (yrs)		
Time lived in area (yrs)	0	Less than 1
	1	1
	2	2
	3	3
	4	4
	5	5
	6	6
	7	7-10
	8	11-20
	9	21+
Employment status		
Employment status	1	NEET
	2	Employed
	3	Retired
Satisfaction with current employment status		
Satisfaction with current employment status	0	Very dissatisfied
	1	Fairly dissatisfied
	2	Neither satisfied nor dissatisfied
	3	Satisfied

	4	Very satisfied
Respondent - In a relationship or not	0	Not in a relationship
	1	In relationship
Satisfaction with overall housing services	0	Very dissatisfied
	1	Fairly dissatisfied
	2	Neither satisfied nor dissatisfied
	3	Satisfied
	4	Very satisfied
Satisfaction with neighbourhood as a place to live	0	Very dissatisfied
	1	Fairly dissatisfied
	2	Neither satisfied nor dissatisfied
	3	Satisfied
	4	Very satisfied
Respondent - sense of belonging	0	Not at all
	1	Not very much
	2	A fair amount
	3	A great deal
Respondent - feel part of the community	0	Not at all
	1	Not very much
	2	A fair amount
	3	A great deal
Take part in social clubs, associations, church groups or anything similar	0	No
	1	Yes
Extent of acquaintance with people in the neighbourhood	0	No-one
	1	Very few people
	2	Some people
	3	Many people
	4	Most people
Geographical proximity of relatives and friends you meet regularly	0	Do not meet friends or relatives regularly
	1	Don't know
	2	Mostly live outside your area
	3	About half and half
	4	Most live locally

APPENDIX M: Ethics Approval Letter



University of Glasgow | College of Medical,
Veterinary & Life Sciences

10th October 2014

Dear Dr Mcintosh

MVLS College Ethics Committee

Project Title: Community Empowerment in Urban Regeneration programmes

Project No: 200140008

The College Ethics Committee has reviewed your application and has agreed that there is no objection on ethical grounds to the proposed study. It is happy therefore to approve the project, subject to the following conditions:

- Project end date: **31st December 2014**
- The research should be carried out only on the sites, and/or with the groups defined in the application.
- Any proposed changes in the protocol should be submitted for reassessment, except when it is necessary to change the protocol to eliminate hazard to the subjects or where the change involves only the administrative aspects of the project. The Ethics Committee should be informed of any such changes.
- If the study does not start within three years of the date of this letter, the project should be resubmitted.
- You should submit a short end of study report to the Ethics Committee within 3 months of completion.

Yours sincerely

Dr Dorothy McKeegan
College Ethics Officer

Dr Dorothy McKeegan

Senior Lecturer

R303 Level 3

Institute of Biodiversity Animal Health and Comparative Medicine

Jarrett Building

Glasgow G61 1QH Tel: 0141 330 5712

E-mail: Dorothy.McKeegan@glasgow.ac.uk

APPENDIX N: Convenience sample pilot model

Attribute	Coefficient	P>z	[95% CI]
Inclusion			
You never have the opportunity participate	-	-	-
You have the opportunity to participate sometimes	1.01	0.19	(-0.52,2.53)
You have the opportunity to participate regularly	1.64	0.12	(0.42,3.69)
Trust in Stakeholders			
Decision making processes are not explained and no consideration of your views is evident	-	-	-
Some decision making is explained and some consideration of your views is evident	0.82	0.37	(-0.98,2.63)
Decision making processes are fully explained; you can see consideration of your views in local decisions	1.02	0.29	(0.86,2.89)
Sense of belonging			
You do not know your neighbours and do not feel a valued member of the community	-	-	-
You know some of your neighbours and feel a valued member in the community	0.91	0.41	(-0.95,3.70)
You know all your neighbours well and feel a valued member of the community	2.33	0.01	(1.03,2.75)
Information/knowledge			
You are not informed about the regeneration programme	-	-	-
You are somewhat informed about the regeneration programme	0.00	1.00	(-0.82,0.82)
You are fully informed about the regeneration programme	0.10	0.55	(-0.22,0.42)
Residents time commitment			
Amount of time residents commit to ensure their views are heard.	3.50	0.01	(1.33,5.68)
Resources/funding			
None - there is no help or support of any kind	-	-	-
Some - limited help and support is available	-1.05	0.34	(-3.20,1.11)
Yes - help and support is available	0.12	0.77	(-0.66,0.89)

Number of observations = 371

Clusters (individuals) = 24

Log-likelihood = -192.478

Prob > chi2 = 0.00

APPENDIX O: SWEMWBS

The Short Warwick-Edinburgh Mental Well-being Scale (SWEMWBS)

Below are some statements about feelings and thoughts.
Please tick the box that best describes your experience of
each over the last 2 weeks

STATEMENTS	None of the time	Rarely	Some of the time	Often	All of the time
I've been feeling optimistic about the future	1	2	3	4	5
I've been feeling useful	1	2	3	4	5
I've been feeling relaxed	1	2	3	4	5
I've been dealing with problems well	1	2	3	4	5
I've been thinking clearly	1	2	3	4	5
I've been feeling close to other people	1	2	3	4	5
I've been able to make up my own mind about things	1	2	3	4	5

APPENDIX P: Soft Launch Results

A total of 34 UK residents completed the survey. 15% (4 respondents) opted-out of all 20 choice tasks. 38% of the respondents failed consistency check (Scenario 4) whilst 19% failed the reliability check (Scenario 16 as a reverse repeat of Scenario 9). 31% respondents who failed both the consistency checks were excluded from the study. A total of 26 participants were carried forward.

16 (62%) males and 10 (38%) females. 94% of respondents described their ethnicity as 'White-British' and the remaining 4% identified themselves as 'Asian-British'. Except one of the respondents who was an EU passport holder, all respondents were British citizens born either inside or outside the UK. The age breakdown of respondents is listed below.

- 20% aged 16-24 years old;
- 25% aged 25-34 years old;
- 15% aged 35-44 years old;
- 17% aged 45-54 years old;
- 4% aged 55-64 years old;
- 19% were 65+ years old.

When asked about their 'relationship status', 44% described themselves as single and a further 38% of respondents stated that they were married or in a civil partnership. 11% of respondents reported they were cohabiting with their partner. The remaining 7% were widowed, separated or divorced. 49% of respondents had children.

48% respondents work full-time, 19% described their work status as part-time. 4% of respondents were unemployed and 12% were not working due to ill health. No students/trainees or self-employed residents were surveyed. A further 12% of respondents were retired and 5% refused to answer.

37% of respondents had achieved an O-Grade, GCSE, standard grade or an equivalent qualification. A total of 31% of respondents attended University, with 18% obtaining a Postgraduate qualification.

Annual household income, 15% stated it was less than £14,999, 35% stated theirs was £15,000-£29,999; a further 29% earned £30,000-£49,999 and, the remaining 21% reported their household income as in excess of £50,000.

39% of respondents had experienced urban regeneration, whilst the remaining 61% had not. No respondents had lived in their current area for less than one year. 19% had lived there for 1-5years, 20% for 6-10years, 34% for 11-20years and 27% for 21+ years.

Tables 1 and 2 below illustrate respondents social connections in their local area/neighbourhood.

Table 1: Number of hours dedicated to community activities

How many hours per week do you give up your time to participate in voluntary community activities (e.g. tenant organisations, children clubs, social groups, clubs or organisations)?	% Respondent s
0hrs-2 hrs/week	77%
2hrs-4 hrs/week	15%
4hrs-6 hrs/week	8%
Over 6 hrs/week	0%

Table 2: Respondent sense of connection and belonging to their neighbourhood

		Most of the time	Some of the time	Not very often	Never
A	I feel I belong to my neighbourhood	66%	13%	21%	0%
B	I like my neighbourhood as a place to live	78%	15%	7%	0%
C	I keep informed of local decisions	53%	26%	16%	5%

18% respondents stated their health was 'excellent', 61% described it as 'very good' or 'good', 6% as 'fair' and the final 14% felt they had 'poor' health.

Table 3 presents the results from the MNL model of the soft launch data.

Table 3: MNL model

Attribute	Coefficient	P>z	[95% CI]
Inclusion			
You have the opportunity to participate sometimes	-0.60	0.09	(-1.31,1.06)
You have the opportunity to participate regularly	0.38	0.2	(-0.2,0.96)
Sense of belonging			
You know some of your neighbours and feel a valued member in the community	1.76	0.00	(1.11,2.4)
You know all your neighbours well and feel a valued member of the community	2.01	0.00	(1.33,2.69)
Trust in Stakeholders			
Some decision making is explained and some consideration of your views is evident	0.09	0.71	(-0.37,0.54)
Decision making processes are fully explained ; you can see consideration of your views in local decisions	1.14	0.00	(0.59,1.69)
Information/knowledge			
You are somewhat informed about the regeneration programme	1.29	0.00	(0.73,1.84)
You are fully informed about the regeneration programme	1.88	0.00	(1.27,2.5)
Residents time commitment			
Amount of time residents commit to ensure their views are heard.	-0.19	0.00	(-0.24,-0.14)
Resources/funding			
Some – limited help and support is available	0.42	0.10	(-0.08,0.93)
Yes - help and support is available	1.14	0.00	(0.59,1.69)

Clusters (individuals) = 26

Log-likelihood = -343.733

Prob > chi2 = 0.00

APPENDIX Q: Survey

University of Glasgow

Community Empowerment in Your Neighbourhood

A Survey of your preferences



Camilla Baba

You are invited to participate in this survey exploring the issues surrounding community empowerment in an urban regeneration setting.

Our Aim

To understand what aspects of community empowerment **YOU** feel are most important.

We are interested in your views and will present you with a series of imaginary scenarios about the promotion of community empowerment as part of urban regeneration programmes. You will be asked to select which scenario you would prefer. In addition, we will also collect some background information about you.

**What is Community Empowerment?
A community's ability to influence decisions affecting local issues and achieve shared goals and dreams**

Background

Urban regeneration is the redevelopment of urban neighbourhoods to better the physical (e.g. housing), environmental (e.g. provision of parks and woodlands), economic (e.g. provision of jobs and better transport links) and social (e.g. helping residents build connections/networks within their community) condition of the area. Residents undergoing regeneration could have been relocated, had their homes refurbished, or experienced changes to the neighbourhood. Regeneration could take **up to 10 years**. An area may have undergone some physical alterations such as temporary loss of local access streets, rerouting of transport services, loss of shops and community centres during the regeneration process. These would be replaced upon completion of the regeneration.

Stakeholders: in this project we are restricting 'stakeholders' to those policy makers and decision makers who are financially investing in the urban regeneration programmes (e.g. local housing authorities, developers and the city council). Communities and residents are also considered 'stakeholders' however are not required to fund the regeneration programme.

Some initial questions

How long have you lived in your current area?

Less than 1 year

1 – 5 years

6 – 10 years

11 – 20 years

21+ years

How many hours per week do you give up your time to participate in voluntary community activities (e.g. tenant organisations, children clubs, social groups, clubs or organisations)?

0hrs-2 hrs/week

2hrs-4 hrs/week

4hrs-6 hrs/week

Over 6 hrs/week

To what extent do the following statements apply to you? *Please tick only one box per statement*

		Most of the time	Some of the time	Not very often	Never
A	I feel I belong to my neighbourhood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B	I like my neighbourhood as a place to live	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C	I keep informed of local decisions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Have you ever lived in an area undergoing urban regeneration?

Yes No

Community Empowerment and YOU

Evidence has shown that community empowerment is about more than just getting communities and residents like you **involved in the decision making process** and providing **resources and expertise** to help this involvement. Community empowerment requires other **stakeholders building your trust** in them, is linked to **your sense of belonging** and also **your ability to dedicate time** to increasing your awareness and knowledge of the urban regeneration programme. Though examining these features of community empowerment, this survey will highlight which features of community empowerment within urban regeneration programmes that **YOU** feel are important!

The following section contains 20 questions. Each question requires you to compare different ways of promoting community empowerment and indicate which one you would prefer. Each choice involves two different community empowerment scenarios that will tell you how they impact residents. These imaginary scenarios are designed to identify what is important to you. **We would like you to imagine that you are a resident living in an area undergoing urban redevelopment.** The table below lists the features of community empowerment.

Community Empowerment features	Levels
<p>Inclusion The extent to which you are included in community decision making processes (e.g. through local meetings, regular email/telephone contact).</p>	<ul style="list-style-type: none"> • You never have the opportunity participate • You have the opportunity to participate sometimes • You have the opportunity to participate regularly
<p>Trust in Stakeholders The extent to which community decision making processes are explained and transparent and whether your views are included in local decisions.</p>	<ul style="list-style-type: none"> • Decision making processes are not explained and no consideration of your views is evident • Some decision making is explained and some consideration of your views is evident • Decision making processes are fully explained; you can see consideration of your views in local decisions
<p>Sense of belonging How well you know your neighbours and how valued you feel as a member of the local community.</p>	<ul style="list-style-type: none"> • You do not know your neighbours and do not feel a valued member of the community • You know some of your neighbours and feel a valued member in the community • You know all your neighbours well and feel a valued member of the community
<p>Residents time commitment Amount of your own time you have to give up to ensure your views are heard.</p>	<ul style="list-style-type: none"> • 0 hours every month • 4 hours every month • 16 hours every month
<p>Resources/funding The level of stakeholder provided opportunities and resources for communities to develop skills/expertise and gain new community assets.</p>	<ul style="list-style-type: none"> • None - there is no help or support of any kind • Some - limited help and support is available • Yes - help and support is available
<p>Information/knowledge Your level of knowledge of issues and developments in the urban regeneration programme.</p>	<ul style="list-style-type: none"> • You are not informed about the regeneration programme • You are somewhat informed about the regeneration programme • You are fully informed about the regeneration programme

Please consider each choice separately and tick the box to show which option you would prefer: A, B or Neither

Example choice task

These are the 6 features of Community Empowerment to keep in mind- there is a brief description to help your decision

The 2 options for you to pick between. Keep in mind the different levels of the features...think about which would you prefer - A or B?

Example	Option A	Option B
Inclusion Your inclusion in the decision making process	You never have the opportunity participate	You have the opportunity to participate regularly
Trust in Stakeholders You can see your input being carried out in decision making	Decision making processes are not explained and no consideration of your views is evident	Decision making processes are not explained and no consideration of your views is evident
Sense of Belonging Your interaction with neighbours and feeling valued in the community	You do not know your neighbours and do not feel a valued member of the community	You know all your neighbours well and feel a valued member of the community
Residents time commitment Time sacrificed to ensure your views are heard.	4hrs/month	4hrs/month
Resources Stakeholders provision of opportunities and resources for communities	None - there is no help or support of any kind	Yes - help and support is available
Information/ knowledge Your knowledge of issues in the urban regeneration programme.	You are somewhat informed about the regeneration programme	You are fully informed about the regeneration programme

Which would you prefer?

Neither

After comparing ALL THE OPTIONS please click on one of the 3 boxes to indicate your choice.

Scenario 1	Option A	Option B
Inclusion Your inclusion in the decision making process	You have the opportunity to participate regularly	You never have the opportunity participate
Trust in Stakeholders You can see your input being carried out in decision making	Some decision making is explained and some consideration of your views is evident	Some decision making is explained and some consideration of your views is evident
Sense of Belonging Your interaction with neighbours and feeling valued in the community	You do not know your neighbours and do not feel a valued member of the community	You know all your neighbours well and feel a valued member of the community
Residents time commitment Time sacrificed to ensure your views are heard.	4hrs /month	4hrs/month
Resources Stakeholders provision of opportunities and resources for communities	None - there is no help or support of any kind	Yes- help and support is available
Information/ knowledge Your knowledge of issues in the urban regeneration programme.	You are fully informed about the regeneration programme	You are not informed about the regeneration programme

Which would you prefer?

Neither

Scenario 2	Option A	Option B
Inclusion Your inclusion in the decision making process	You have the opportunity to participate sometimes	You have the opportunity to participate sometimes
Trust in Stakeholders You can see your input being carried out in decision making	Decision making processes are fully explained ; you can see consideration of your views included in local decisions	Decision making processes are not explained and no consideration of your views is evident
Sense of Belonging Your interaction with neighbours and feeling valued in the community	You do not know your neighbours and do not feel a valued member of the community	You know all your neighbours well and feel a valued member of the community
Residents time commitment Time sacrificed to ensure your views are heard.	0hrs/month	16hrs/month
Resources Stakeholders provision of opportunities and resources for communities	Some - limited help and support is available	None - there is no help or support of any kind
Information/ knowledge Your knowledge of issues in the urban regeneration programme.	You are not informed about the regeneration programme	You are fully informed about the regeneration programme
Which would you prefer?	<input type="checkbox"/>	<input type="checkbox"/>

Neither

Scenario 3	Option A	Option B
Inclusion Your inclusion in the decision making process	You never have the opportunity participate	You have the opportunity to participate regularly
Trust in Stakeholders You can see your input being carried out in decision making	Decision making processes are not explained and no consideration of your views is evident	Decision making processes are fully explained ; you can see consideration of your views in local decisions
Sense of Belonging Your interaction with neighbours and feeling valued in the community	You know some of your neighbours and feel a valued member in the community	You know some of your neighbours and feel a valued member in the community
Residents time commitment Time sacrificed to ensure your views are heard.	0hrs/month	16hrs/month
Resources Stakeholders provision of opportunities and resources for communities	None - there is no help or support of any kind	Yes - help and support is available
Information/ knowledge Your knowledge of issues in the urban regeneration programme.	You are not informed about the regeneration programme	You are somewhat informed about the regeneration programme

Which would you prefer?

Neither

Scenario 4	Option A	Option B
Inclusion Your inclusion in the decision making process	You never have the opportunity participate	You have the opportunity to participate regularly
Trust in Stakeholders You can see your input being carried out in decision making	Decision making processes are not explained and no consideration of your views is evident	Decision making processes are fully explained ; you can see consideration of your views in local decisions
Sense of Belonging Your interaction with neighbours and feeling valued in the community	You know some of your neighbours and feel a valued member in the community	You know some of your neighbours and feel a valued member in the community
Residents time commitment Time sacrificed to ensure your views are heard.	16hrs/month	0hrs/month
Resources Stakeholders provision of opportunities and resources for communities	Yes - help and support is available	None - there is no help or support of any kind
Information/knowledge Your knowledge of issues in the urban regeneration programme.	You are fully informed about the regeneration programme	You are not informed about the regeneration programme

Which would you prefer?

Neither

Scenario 5	Option A	Option B
Inclusion Your inclusion in the decision making process	You have the opportunity to participate sometimes	You have the opportunity to participate sometimes
Trust in Stakeholders You can see your input being carried out in decision making	Decision making processes are not explained and no consideration of your views is evident	Decision making processes are fully explained ; you can see consideration of your views in local decisions
Sense of Belonging Your interaction with neighbours and feeling valued in the community	You know all your neighbours well and feel a valued member of the community	You do not know your neighbours and do not feel a valued member of the community
Residents time commitment Time sacrificed to ensure your views are heard.	4hrs/month	16hrs/month
Resources Stakeholders provision of opportunities and resources for communities	None - there is no help or support of any kind	Yes - help and support is available
Information/ knowledge Your knowledge of issues in the urban regeneration programme.	You are not informed about the regeneration programme	You are fully informed about the regeneration programme

Which would you prefer?

Neither

Scenario 6	Option A	Option B
Inclusion Your inclusion in the decision making process	You have the opportunity to participate sometimes	You have the opportunity to participate sometimes
Trust in Stakeholders You can see your input being carried out in decision making	Decision making processes are fully explained ; you can see consideration of your views included in local decisions	Decision making processes are not explained and no consideration of your views is evident
Sense of Belonging Your interaction with neighbours and feeling valued in the community	You know some of your neighbours and feel a valued member in the community	You do not know your neighbours and do not feel a valued member of the community
Residents time commitment Time sacrificed to ensure your views are heard.	4hrs/month	4hrs/month
Resources Stakeholders provision of opportunities and resources for communities	Yes- help and support is available	Some - limited help and support is available
Information/ knowledge Your knowledge of issues in the urban regeneration programme.	You are fully informed about the regeneration programme	You are somewhat informed about the regeneration programme

Which would you prefer?

Neither

Scenario 7	Option A	Option B
Inclusion Your inclusion in the decision making process	You have the opportunity to participate sometimes	You have the opportunity to participate sometimes
Trust in Stakeholders You can see your input being carried out in decision making	Some decision making is explained and some consideration of your views is evident	Some decision making is explained and some consideration of your views is evident
Sense of Belonging Your interaction with neighbours and feeling valued in the community	You do not know your neighbours and do not feel a valued member of the community	You know all your neighbours well and feel a valued member of the community
Residents time commitment Time sacrificed to ensure your views are heard.	16hrs/month	4hrs/month
Resources Stakeholders provision of opportunities and resources for communities	Yes - help and support is available	None - there is no help or support of any kind
Information/ knowledge Your knowledge of issues in the urban regeneration programme.	You are fully informed about the regeneration programme	You are not informed about the regeneration programme

Which would you prefer?

Neither

Scenario 8	Option A	Option B
Inclusion Your inclusion in the decision making process	You have the opportunity to participate sometimes	You have the opportunity to participate sometimes
Trust in Stakeholders You can see your input being carried out in decision making	Decision making processes are fully explained ; you can see consideration of your views included in local decisions	Some decision making is explained and some consideration of your views is evident
Sense of Belonging Your interaction with neighbours and feeling valued in the community	You know all your neighbours well and feel a valued member of the community	You do not know your neighbours and do not feel a valued member of the community
Residents time commitment Time sacrificed to ensure your views are heard.	0hrs/month	16hrs/month
Resources Stakeholders provision of opportunities and resources for communities	Yes - help and support is available	None - there is no help or support of any kind
Information/knowledge Your knowledge of issues in the urban regeneration programme.	You are fully informed about the regeneration programme	You are not informed about the regeneration programme

Which would you prefer?

Neither

Scenario 9	Option A	Option B
Inclusion Your inclusion in the decision making process	You have the opportunity to participate sometimes	You have the opportunity to participate sometimes
Trust in Stakeholders You can see your input being carried out in decision making	Some decision making is explained and some consideration of your views is evident	Some decision making is explained and some consideration of your views is evident
Sense of Belonging Your interaction with neighbours and feeling valued in the community	You know some of your neighbours and feel a valued member in the community	You know some of your neighbours and feel a valued member in the community
Residents time commitment Time sacrificed to ensure your views are heard.	16hrs/month	0hrs/month
Resources Stakeholders provision of opportunities and resources for communities	Some - limited help and support is available	Some - limited help and support is available
Information/knowledge Your knowledge of issues in the urban regeneration programme.	You are somewhat informed about the regeneration programme	You are somewhat informed about the regeneration programme

Which would you prefer?

Neither

Scenario 10	Option A	Option B
Inclusion Your inclusion in the decision making process	You never have the opportunity participate	You have the opportunity to participate regularly
Trust in Stakeholders You can see your input being carried out in decision making	Some decision making is explained and some consideration of your views is evident	Decision making processes are not explained and no consideration of your views is evident
Sense of Belonging Your interaction with neighbours and feeling valued in the community	You know all your neighbours well and feel a valued member of the community	You do not know your neighbours and do not feel a valued member of the community
Residents time commitment Time sacrificed to ensure your views are heard.	16hrs /month	0hrs /month
Resources Stakeholders provision of opportunities and resources for communities	None - there is no help or support of any kind	Yes - help and support is available
Information/knowledge Your knowledge of issues in the urban regeneration programme.	You are fully informed about the regeneration programme	You are not informed about the regeneration programme

Which would you prefer?

Neither

Scenario 11	Option A	Option B
Inclusion Your inclusion in the decision making process	You have the opportunity to participate regularly	You never have the opportunity participate
Trust in Stakeholders You can see your input being carried out in decision making	Some decision making is explained and some consideration of your views is evident	Some decision making is explained and some consideration of your views is evident
Sense of Belonging Your interaction with neighbours and feeling valued in the community	You do not know your neighbours and do not feel a valued member of the community	You know all your neighbours well and feel a valued member of the community
Residents time commitment Time sacrificed to ensure your views are heard.	0 hrs/month	16 hrs/month
Resources Stakeholders provision of opportunities and resources for communities	None - there is no help or support of any kind	Yes - help and support is available
Information/knowledge Your knowledge of issues in the urban regeneration programme.	You are somewhat informed about the regeneration programme	You are not informed about the regeneration programme
Which would you prefer?	<input type="checkbox"/>	<input type="checkbox"/>

Neither

Scenario 12	Option A	Option B
Inclusion Your inclusion in the decision making process	You have the opportunity to participate sometimes	You have the opportunity to participate regularly
Trust in Stakeholders You can see your input being carried out in decision making	Decision making processes are not explained and no consideration of your views is evident	Decision making processes are fully explained ; you can see consideration of your views included in local decisions
Sense of Belonging Your interaction with neighbours and feeling valued in the community	You know all your neighbours well and feel a valued member of the community	You know some of your neighbours and feel a valued member in the community
Residents time commitment Time sacrificed to ensure your views are heard.	0hrs/month	16hrs/month
Resources Stakeholders provision of opportunities and resources for communities	Some - limited help and support is available	Some - limited help and support is available
Information/ knowledge Your knowledge of issues in the urban regeneration programme.	You are somewhat informed about the regeneration programme	You are somewhat informed about the regeneration programme

Which would you prefer?

Neither

Scenario 13	Option A	Option B
Inclusion Your inclusion in the decision making process	You have the opportunity to participate regularly	You never have the opportunity participate
Trust in Stakeholders You can see your input being carried out in decision making	Decision making processes are fully explained ; you can see consideration of your views in local decisions	Decision making processes are not explained and no consideration of your views is evident
Sense of Belonging Your interaction with neighbours and feeling valued in the community	You know all your neighbours well and feel a valued member of the community	You do not know your neighbours and do not feel a valued member of the community
Residents time commitment Amount of your own time you have to give up to ensure your views are heard.	16hrs/month	0hrs/month
Resources Stakeholders provision of opportunities and resources for communities	None - there is no help or support of any kind	Yes - help and support is available
Information/knowledge Your knowledge of issues in the urban regeneration programme.	You are somewhat informed about the regeneration programme	You are somewhat informed about the regeneration programme

Which would you prefer?

Neither

Scenario 14	Option A	Option B
Inclusion Your inclusion in the decision making process	You have the opportunity to participate sometimes	You have the opportunity to participate regularly
Trust in Stakeholders You can see your input being carried out in decision making	Decision making processes are fully explained ; you can see consideration of your views in local decisions	Decision making processes are not explained and no consideration of your views is evident
Sense of Belonging Your interaction with neighbours and feeling valued in the community	You do not know your neighbours and do not feel a valued member of the community	You know all your neighbours well and feel a valued member of the community
Residents time commitment Time sacrificed to ensure your views are heard.	0hrs/month	16hrs/month
Resources Stakeholders provision of opportunities and resources for communities	Yes - help and support is available	None - there is no help or support of any kind
Information/ knowledge Your knowledge of issues in the urban regeneration programme.	You are not informed about the regeneration programme	You are fully informed about the regeneration programme
Which would you prefer?	<input type="checkbox"/>	<input type="checkbox"/>

Neither

Scenario 15	Option A	Option B
Inclusion Your inclusion in the decision making process	You have the opportunity to participate regularly	You never have the opportunity participate
Trust in Stakeholders You can see your input being carried out in decision making	Decision making processes are not explained and no consideration of your views is evident	Some decision making is explained and some consideration of your views is evident
Sense of Belonging Your interaction with neighbours and feeling valued in the community	You do not know your neighbours and do not feel a valued member of the community	You know all your neighbours well and feel a valued member of the community
Residents time commitment Time sacrificed to ensure your views are heard.	4hrs/month	4hrs/month
Resources Stakeholders provision of opportunities and resources for communities	Yes - help and support is available	None - there is no help or support of any kind
Information/knowledge Your knowledge of issues in the urban regeneration programme.	You are fully informed about the regeneration programme	You are not informed about the regeneration programme

Which would you prefer?

Neither

Scenario 16	Option A	Option B
Inclusion Your inclusion in the decision making process	You have the opportunity to participate sometimes	You have the opportunity to participate sometimes
Trust in Stakeholders You can see your input being carried out in decision making	Some decision making is explained and some consideration of your views is evident	Decision making processes are fully explained ; you can see consideration of your views included in local decisions
Sense of Belonging Your interaction with neighbours and feeling valued in the community	You do not know your neighbours and do not feel a valued member of the community	You know all your neighbours well and feel a valued member of the community
Residents time commitment Time sacrificed to ensure your views are heard.	16hrs/month	0hrs/month
Resources Stakeholders provision of opportunities and resources for communities	None - there is no help or support of any kind	Yes - help and support is available
Information/knowledge Your knowledge of issues in the urban regeneration programme.	You are not informed about the regeneration programme	You are fully informed about the regeneration programme

Which would you prefer?

Neither

Scenario 17	Option A	Option B
Inclusion Your inclusion in the decision making process	You have the opportunity to participate regularly	You never have the opportunity participate
Trust in Stakeholders You can see your input being carried out in decision making	Decision making processes are fully explained ; you can see consideration of your views included in local decisions	Decision making processes are not explained and no consideration of your views is evident
Sense of Belonging Your interaction with neighbours and feeling valued in the community	You know all your neighbours well and feel a valued member of the community	You do not know your neighbours and do not feel a valued member of the community
Residents time commitment Time sacrificed to ensure your views are heard.	16hrs/month	0hrs/month
Resources Stakeholders provision of opportunities and resources for communities	Yes - help and support is available	None - there is no help or support of any kind
Information/ knowledge Your knowledge of issues in the urban regeneration programme.	You are not informed about the regeneration programme	You are fully informed about the regeneration programme

Which would you prefer?

Neither

Scenario 18	Option A	Option B
Inclusion Your inclusion in the decision making process	You never have the opportunity participate	You have the opportunity to participate regularly
Trust in Stakeholders You can see your input being carried out in decision making	Some decision making is explained and some consideration of your views is evident	Some decision making is explained and some consideration of your views is evident
Sense of Belonging Your interaction with neighbours and feeling valued in the community	You know some of your neighbours and feel a valued member in the community	You know some of your neighbours and feel a valued member in the community
Residents time commitment Time sacrificed to ensure your views are heard.	0 hrs/month	4 hrs/month
Resources Stakeholders provision of opportunities and resources for communities	Some - limited help and support is available	Some - limited help and support is available
Information/ knowledge Your knowledge of issues in the urban regeneration programme.	You are fully informed about the regeneration programme	You are not informed about the regeneration programme

Which would you prefer?

Neither

Scenario 19	Option A	Option B
Inclusion Your inclusion in the decision making process	You never have the opportunity participate	You have the opportunity to participate regularly
Trust in Stakeholders You can see your input being carried out in decision making	Some decision making is explained and some consideration of your views is evident	Some decision making is explained and some consideration of your views is evident
Sense of Belonging Your interaction with neighbours and feeling valued in the community	You know some of your neighbours and feel a valued member in the community	You know some of your neighbours and feel a valued member in the community
Residents time commitment Time sacrificed to ensure your views are heard.	4hrs/month	4hrs/month
Resources Stakeholders provision of opportunities and resources for communities	Some - limited help and support is available	Some - limited help and support is available
Information/knowledge Your knowledge of issues in the urban regeneration programme.	You are not informed about the regeneration programme	You are fully informed about the regeneration programme
Which would you prefer?	<input type="checkbox"/>	<input type="checkbox"/>

Neither

Scenario 20	Option A	Option B
<p>Inclusion Your inclusion in the decision making process</p>	<p>You have the opportunity to participate regularly</p>	<p>You have the opportunity to participate sometimes</p>
<p>Trust in Stakeholders You can see your input being carried out in decision making</p>	<p>Decision making processes are not explained and no consideration of your views is evident</p>	<p>Decision making processes are fully explained; you can see consideration of your views in local decisions</p>
<p>Sense of Belonging Your interaction with neighbours and feeling valued in the community</p>	<p>You know all your neighbours well and feel a valued member of the community</p>	<p>You do not know your neighbours and do not feel a valued member of the community</p>
<p>Residents time commitment Time sacrificed to ensure your views are heard.</p>	<p>4hrs/month</p>	<p>0hrs/month</p>
<p>Resources Stakeholders provision of opportunities and resources for communities</p>	<p>Yes - help and support is available</p>	<p>None - there is no help or support of any kind</p>
<p>Information/knowledge Your knowledge of issues in the urban regeneration programme.</p>	<p>You are not informed about the regeneration programme</p>	<p>You are fully informed about the regeneration programme</p>

Which would you prefer?

Neither

- Student or training
- Unemployed
- Retired
- Not working due to illness
- Prefer not to answer

6. What is your highest educational qualification? (Please tick one box)

- No formal educational qualifications
- O Grade, Standard Grade, GCSE, CSE, or equivalent
- IB, Advanced Higher/A Level, Higher/AS Level, Advanced Senior cert, CSYS or equivalent
- Apprenticeships or trade qualification
- HNC, HND, SVQ, RSA Higher Diploma or equivalent
- Undergraduate degree
- Postgraduate degree
- Other technical or business qualification / certificate

**7. How would you describe your ethnic group?
Please tick one box**

- | | |
|---|---|
| <input type="checkbox"/> White - British | <input type="checkbox"/> Black - Other |
| <input type="checkbox"/> White - European | <input type="checkbox"/> Arab - British |
| <input type="checkbox"/> White - Other | <input type="checkbox"/> Arab - Other |
| <input type="checkbox"/> Asian - British | <input type="checkbox"/> Other |

- Asian – Other
- Black – African
- Black – British

8. Which of the categories on this list best describe your current situation?

- British Citizen born in UK
- EU passport holder
- British Citizen born outside UK
- Other
- Indefinite leave to remain
- Exceptional leave to remain
- Applying for asylum
- Appealing refused asylum
- Received final refusal

9. Which best represents your TOTAL ANNUAL HOUSEHOLD INCOME from all sources. Do not deduct Tax, National Insurance, Health Insurance payments, or your contributions to pension schemes. Also do not count loans.

- Less than £14,999
- £15,000 - £29,999
- £30,000 - £49,999
- £50,000 or more

10. In general, would you say your health is...?

- Excellent

Very good

Good

Fair

Poor

11. Below are some statements about feelings and thoughts. Please tick the box that best describes your experience of each over the last 2 weeks.

STATEMENTS	None of the time	Rarely	Some of the time	Often	All of the time
I've been feeling optimistic about the future	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I've been feeling useful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I've been feeling relaxed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I've been dealing with problems well	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I've been thinking clearly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I've been feeling close to other people	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I've been able to make up my own mind about things	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

THANK YOU FOR HELPING US WITH THIS RESEARCH

APPENDIX R: Main Survey respondents socio-demographic statistics

Number of respondents	302
Variable	%
Gender	
Male	49
Female	51
Age	
16-24	13
25-34	17
35-44	19
45-54	16
55-64	15
65+	21
Relationship Status	
Married	49
Single	25
Cohabiting	12
Partner, not living together	4
Civil partnership	1
Widowed	2
Divorced	5
Separated, but not divorced	2
Other	0
Children	
Yes	55
No	45
Employment Status	
Full-time	36
Part-time	12
Self-employed	6
Student or training	6
Unemployed	9
Retired	25
Not working due to illness	4
Prefer not to answer	2
Education	
No formal qualifications	4
O Grade, Standard Grade, GCSE, CSE, or equivalent	21
IB, Advanced Higher/A Level, Higher/AS Level, Advanced Senior cert, CSYS or equivalent	16
Apprenticeships or trade qualification	4
HNC, HND, SVQ, RSA Higher Diploma or equivalent	11
Undergraduate degree	22
Postgraduate degree	16
Other technical or business qualification / certificate	5
Ethnicity	
White - British	83
White - European	8
White - Other	2
Asian - British	3

Asian - Other	2
Black - African	2
Black - British	1
Black - Other	0
Arab - British	0
Arab - Other	0
Other	1
Citizenship Status	
British Citizen born in UK	84
British Citizen born outside UK	5
Indefinite leave to remain	2
Exceptional leave to remain	1
Applying for asylum	0
Appealing refused asylum	0
Received final refusal	0
EU passport holder	6
Other	1
Annual Household Income	
Less than £14,999	14
£15,000 - £29,999	35
£30,000 - £49,999	28
£50,000 or more	23
General Health	
Excellent	16
Very Good	44
Good	28
Fair	8
Poor	4
SWEMWBS	
Mean SWEMWBS	22.35 (25 raw score)
How long have you lived in your current area?	
Less than 1 year	4
1 - 5 years	26
6 - 10 years	16
11 - 20 years	22
21+ years	32
I feel I belong to my neighbourhood	
Most of the time	37
Some of the time	40
Not very often	19
Never	4
I like my neighbourhood as a place to live	
Most of the time	71
Some of the time	24
Not very often	3
Never	2
I keep informed of local decisions	
Most of the time	28
Some of the time	45
Not very often	22
Never	5
Have you ever lived in an area undergoing urban regeneration?	
Yes	25
No	75

APPENDIX S: Non Demanders

Never vs. Always Opt-out

Number of respondents	72	17
Variable	Never Opt-out (%)	Always Opt-out (%)
Gender		
Male	44	35
Female	56	65
Age		
16-24	15	6
25-34	28	6
35-44	19	29
45-54	11	24
55-64	13	11
65+	14	24
Relationship Status		
Married	44	35
Single	24	29
Cohabiting	15	6
Partner, not living together	6	6
Civil partnership	-	12
Widowed	3	6
Divorced	7	6
Separated, but not divorced	1	-
Other	-	-
Children		
Yes	53	59
No	47	41
Employment Status		
Full-time	47	35
Part-time	13	12
Self-employed	6	6
Student or training	6	-
Unemployed	7	12
Retired	17	18
Not working due to illness	4	12
Prefer not to answer	-	5
Education		
No formal qualifications	1	-
O Grade, Standard Grade, GCSE, CSE, or equivalent	19	23
IB, Advanced Higher/A Level, Higher/AS Level, Advanced Senior cert, CSYS or equivalent	14	6
Apprenticeships or trade qualification	6	6
HNC, HND, SVQ, RSA Higher Diploma or equivalent	11	23
Undergraduate degree	25	24
Postgraduate degree	21	12
Other technical or business qualification / certificate	3	6
Ethnicity		
White - British	79	82
White - European	8	12
White - Other	1	-

Asian - British	4	-
Asian - Other	3	-
Black - African	1	-
Black - British	-	6
Black - Other	2	-
Arab - British	-	-
Arab - Other	-	-
Other	2	-
Citizenship Status		
British Citizen born in UK	83	94
British Citizen born outside UK	6	-
Indefinite leave to remain	3	-
Exceptional leave to remain	1	-
Applying for asylum	-	-
Appealing refused asylum	-	-
Received final refusal	-	-
EU passport holder	7	6
Other	-	-
Annual Household Income		
Less than £14,999	14	24
£15,000 - £29,999	32	29
£30,000 - £49,999	30	29
£50,000 or more	24	18
General Health		
Excellent	21	18
Very Good	44	35
Good	31	23
Fair	3	6
Poor	1	18
How long have you lived in your current area?		
Less than 1year	4	6
1 - 5 years	25	18
6 - 10 years	14	23
11 - 20 years	33	23
21+ years	24	30
I feel I belong to my neighbourhood		
Most of the time	40	18
Some of the time	36	35
Not very often	17	35
Never	7	12
I like my neighbourhood as a place to live		
Most of the time	78	41
Some of the time	18	53
Not very often	3	-
Never	1	6
I keep informed of local decisions		
Most of the time	40	6
Some of the time	45	35
Not very often	8	41
Never	7	18
Have you ever lived in an area undergoing urban regeneration?		
Yes	33	18
No	67	82

17 survey participants (6 males and 11 females) were classified as ‘non-demanders’, opting-out of all choice sets presented to them during the DCE. These non-demanders were excluded from the main survey analyses. However, whilst these respondents’ neutral responses failed to provide details of their utility preferences and trade-offs, we were able to describe their socio-demographic characteristics.

Non-demanders socio-demographic characteristics

65% of ‘non-demanders’ were female, 35% were male. 12% were aged 34 years or younger. 53% were aged 35-54 years old and the remaining 35% were 55 years old or older. Over half (59%) classified themselves as being in a relationship whilst nearly a third (29%) described themselves as being ‘single’. 12% were widowed or divorced and none described their relationship circumstances as ‘separated’. 59% had children. No students were ‘non-demanders’ whilst 53% of ‘non-demanders’ were employed (full/part-time or self-employed). The remaining 47% of ‘non-demanders’ stated that they were unemployed, retired, off work due to ill-health, or preferred not to declare.

All of the ‘non-demanders’ possessed some level of formal qualification. 53% declared their total annual household income as £29,999 or less whilst 47% stated that they (and their family) earned over £30,000 p.a. Less than half (42%) of ‘non-demanders’ were educated to at least higher education level whilst 58% left school with qualifications or had an apprenticeship/trade qualifications. Only 6% of ‘non-demanders’ were not ‘White’ (British or European) and classified their ethnicity as ‘Black-British’. All of the ‘non-demanders’ were British or held an EU passport. Of these 94% were British Citizens born in the UK. When asked to rate their general health, 53% of the ‘non-demanders’ described it as ‘excellent’ or ‘very good’. 23% self-reported their general health as ‘good’ whilst, in contrast, 24% felt their health was at best ‘fair’.

Linear Regression model: Number of Opt-outs

As introduced in Section 9.6.2, the data suggests that there may be some behaviour/characteristics that act as predictors of whether an individual is more likely to 'opt-out' of the DCE i.e. be a non-demander of CE. The results of the linear regressions examining whether certain socio-demographic and neighbourhood characteristics act as predictors of opting-out of the DCE are shown below. The dependent variable, 'number of opt-outs' was treated as continuous and the lowest level of each independent variable acted as the reference level.

Linear regression results for Number of Opt-outs and socio-demographic characteristics

Independent variable	Category	Coefficient (SE)	P-value	95% CI
Dependent variable: Number of Opt-outs (number of observations = 10872)				
Have you lived through an area that has experienced urban regeneration?	No	-	-	-
	Yes	-0.66(0.06)	0.00	-0.77, -0.55
How long have you lived in your current area?	5 years or less	-	-	-
	6-10 years	0.04(-0.78)	0.60	-0.11, 0.19
	11-20 years	-0.78(0.07)	0.00	-0.91, -0.65
	21+ years	-0.01(0.07)	0.96	-0.14, 0.13
I feel I belong to my neighbourhood	Not very often/Never	-	-	-
	Some/Most of the time	0.72(0.68)	0.00	0.59, 0.86
I like my neighbourhood as a place to live	Some of the time/Not very often/Never	-	-	-
	Most of the time	-0.44(0.63)	0.00	-0.56, -0.31
I keep informed of local decisions	Not very often/Never	-	-	-
	Some of the time	-0.93(0.07)	0.00	-1.07, -0.79
	Most of the time	-1.92(0.09)	0.00	-2.09, -1.75
Age (yrs)	-	0.03(0.01)	0.00	0.02, 0.03
Current Employment	NEEP (not in employment, education or training) / retired/ not working due to illness	-	-	-
	Full/Part-time employment and Self-employed	-0.43(0.06)	0.00	-0.54, -0.32

SWEMWBS score	-	0.02(0.01)	0.00	0.01, 0.04
In general would you say your health is...	Fair/poor	-	-	-
	Good	-1.27(0.11)	0.00	-1.49, -1.05
	Very Good	-0.92(0.12)	0.00	-1.15, -0.7
	Excellent	-1.10(0.13)	0.00	-1.35, -0.85

The model shows that those who have lived in an area undergoing urban regeneration were less likely to select 'neither' and 'opt-out' of the DCE (-0.66, 95%CI: -0.77, -0.55) compared to those who have not experienced urban regeneration. Those who had lived in their current area for between 11-20 years were less likely 'opt-out' than those who had lived there for five years or less (-0.78, CI: -0.91, -0.65). Additionally, those who were older (0.03, CI:0.02, 0.03) or had a stronger sense of belonging (relative to those who did not) to their neighbourhood (0.72, CI: 0.59, 0.86) 'opted-out' more frequently than 'full demanders'. Respondents who were in some form of employment with potentially less free time, were more prone to choosing to 'opt-out' of the DCE (-0.43, CI:-0.54,-0.32). Lastly, frequency of opting-out had no clear overall trend across self-reported general health or mental wellbeing (SWEMWBS). Whilst respondents self-reported general health illustrated that those in better health were less likely to 'opt-out', the SWEMWBS score shows that those with higher SWEMWBS score (better mental wellbeing) would be more likely to opt-out (0.02, CI:0.01,0.04).

These analyses demonstrate that increased frequency of opting out from the DCE can be linked to certain socio-demographic characteristics.

Appendix T: MXL models

Association between Gender and CE attributes

Attributes	Coefficient (SE) ^a	P-value	95% CI
Inclusion			
You never have the opportunity participate	-	-	-
You have the opportunity to participate sometimes	-0.87 (1.01)	0.39	-2.85, 1.12
You have the opportunity to participate regularly	0.46 (0.29)	0.01	-0.13, 1.04
Trust in Stakeholders			
Decision making processes are not explained and no consideration of your views is evident	-	-	-
Some decision making is explained and some consideration of your views is evident	-0.11 (0.74)	0.89	-1.55, 1.34
Decision making processes are fully explained; you can see consideration of your views in local decisions	1.39 (0.45)	0.00	0.50, 2.28
Sense of belonging			
You do not know your neighbours and do not feel a valued member of the community	-	-	-
You know some of your neighbours and feel a valued member in the community	-1.9 (1.7)	0.27	-5.24, 1.46
You know all your neighbours well and feel a valued member of the community	0.11 (0.36)	0.05	-0.58, 0.81
Resources/funding			
None - there is no help or support of any kind	-	-	-
Some - limited help and support is available	-0.87 (0.52)	0.09	-1.89, 0.14
Yes - help and support is available	0.07 (0.29)	0.09	
Information/knowledge			
You are not informed about the regeneration programme	-	-	-
You are somewhat informed about the regeneration programme	1.19 (0.73)	0.10	-0.51, 0.64
You are fully informed about the regeneration programme	0.70 (0.27)	0.01	-0.24, 2.62
Residents' time commitment			
Amount of your own time you have to give up to ensure your views are heard.	-0.04 (0.17)	0.01	-0.08, -0.01
Inclusion*female			
You never have the opportunity participate*female	-	-	-
You have the opportunity to participate sometimes*female	1.02 (0.64)	0.114	-0.24, 2.28
You have the opportunity to participate regularly*female	0.12 (0.19)	0.54	-2.26, 0.49
Trust in Stakeholders*female			
Decision making processes are not explained and no consideration of your views is evident*female	-	-	-
Some decision making is explained and some consideration of your views is evident*female	0.28 (0.47)	0.55	-0.64, 1.20
Decision making processes are fully explained; you can see consideration of your views in local decisions*female	-0.49 (0.29)	0.05	-1.05, 0.07

Sense of belonging*female			
You do not know your neighbours and do not feel a valued member of the community*female	-	-	-
You know some of your neighbours and feel a valued member in the community*female	2.02 (1.08)	0.05	-0.10, 4.14
You know all your neighbours well and feel a valued member of the community*female	0.39 (0.23)	0.09	-0.05, 0.83
Resources/funding*female			
None - there is no help or support of any kind*female	-	-	-
Some - limited help and support is available*female	0.64 (0.32)	0.05	-0.001, 1.27
Yes - help and support is available*female	0.17 (0.19)	0.35	-0.19, 0.54
Information/knowledge*female			
You are not informed about the regeneration programme*female	-	-	-
You are somewhat informed about the regeneration programme*female	-0.43 (0.46)	0.35	-1.34, 0.48
You are fully informed about the regeneration programme *female	0.06 (0.17)	0.72	-0.28, 0.4
Residents' time commitment*female			
Amount of your own time you have to give up to ensure your views are heard.*female	-0.005 (0.01)	0.65	-0.03, 0.02
Likelihood ratio	171.48		
Pseudo R ²	0.4		
Prob > chi2	0.00		
Number of observations	6584		

Association between Age and CE attributes

Attributes	Coefficient (SE)	P-value	95% CI
Inclusion			
You never have the opportunity participate	-	-	-
You have the opportunity to participate sometimes	1.38 (0.86)	0.11	-0.32, 3.07
You have the opportunity to participate regularly	0.47 (0.26)	0.05	-0.22, 0.98
Trust in Stakeholders			
Decision making processes are not explained and no consideration of your views is evident	-	-	-
Some decision making is explained and some consideration of your views is evident	-0.16 (0.61)	0.79	-1.37, 1.04
Decision making processes are fully explained; you can see consideration of your views in local decisions	0.19 (0.38)	0.05	-0.56, 0.93
Sense of belonging			
You do not know your neighbours and do not feel a valued member of the community	-	-	-
You know some of your neighbours and feel a valued member in the community	1.11 (1.44)	0.44	-1.7, 3.93
You know all your neighbours well and feel a valued member of the community	0.61 (0.30)	0.04	0.02, 1.2
Resources/funding			
None - there is no help or support of any kind	-	-	-
Some - limited help and support is available	0.05 (0.44)	0.91	-0.80, 0.91
Yes - help and support is available	0.21 (0.25)	0.05	-0.27, 0.69
Information/knowledge			
You are not informed about the regeneration programme	-	-	-
You are somewhat informed about the regeneration programme	-0.75 (0.61)	0.22	-1.94, 0.45
You are fully informed about the regeneration programme	0.44 (0.23)	0.05	-0.01, 0.89

Residents' time commitment			
Amount of your own time you have to give up to ensure your views are heard.	-0.07 (0.01)	0.001	-0.09, -0.04
Inclusion*age			
You never have the opportunity participate*age	-	-	-
You have the opportunity to participate sometimes*age	-0.02 (0.02)	0.33	-0.05, 0.02
You have the opportunity to participate regularly*age	0.01 (0.01)	0.61	-0.01, 0.01
Trust in Stakeholders*age			
Decision making processes are not explained and no consideration of your views is evident*age	-	-	-
Some decision making is explained and some consideration of your views is evident*age	0.01 (0.01)	0.42	-0.02, 0.04
Decision making processes are fully explained; you can see consideration of your views in local decisions*age	0.01 (0.01)	0.18	-0.01, 0.03
Sense of belonging*age			
You do not know your neighbours and do not feel a valued member of the community*age	-	-	-
You know some of your neighbours and feel a valued member in the community*age	-0.01 (0.03)	0.89	-0.07, 0.06
You know all your neighbours well and feel a valued member of the community*age	0.01 (0.01)	0.79	-0.01, 0.01
Resources/funding*age			
None - there is no help or support of any kind*age	-	-	-
Some - limited help and support is available*age	0.01 (0.01)	0.96	-0.02, 0.02
Yes - help and support is available*age	0.02 (0.01)	0.64	-0.01, 0.01
Information/knowledge*age			
You are not informed about the regeneration programme*age	-	-	
You are somewhat informed about the regeneration programme*age	0.03 (0.01)	0.02	-0.004, 0.06
You are fully informed about the regeneration programme*age	0.01 (0.04)	0.05	-0.02, 0.02
Residents' time commitment*age			
Amount of your own time you have to give up to ensure your views are heard. *age	-0.01 (0.01)	0.2	-0.0002, 0.001
Likelihood ratio	166.36		
Pseudo R ²	0.5		
Prob > chi2	0.00		
Number of observations	6584		

Testing Hypothesis One MXL model

Attributes	Coefficient (SE)	P-value	95% CI
Inclusion			
You never have the opportunity participate	-	-	-
You have the opportunity to participate sometimes	0.12 (0.89)	0.89	-1.62, 1.86
You have the opportunity to participate regularly	0.56 (0.27)	0.04	0.03, 1.09
Trust in Stakeholders			
Decision making processes are not explained and no consideration of your views is evident	-	-	-
Some decision making is explained and some consideration of your views is evident	0.06 (0.66)	0.93	-1.24, 1.35
Decision making processes are fully explained; you can see consideration of your views in local decisions	1.11 (0.40)	0.01	0.32, 1.90
Sense of belonging			
You do not know your neighbours and do not feel a valued member of the community	-	-	-
You know some of your neighbours and feel a valued member in the community	0.62 (1.50)	0.68	-2.33, 3.57
You know all your neighbours well and feel a valued member of the community	0.67 (0.32)	0.03	0.05, 1.29
Resources/funding			
None - there is no help or support of any kind	-	-	-
Some - limited help and support is available	0.44 (0.46)	0.34	-0.46, 1.33
Yes - help and support is available	0.03 (0.26)	0.01	-0.49, 0.55
Information/knowledge			
You are not informed about the regeneration programme	-	-	-
You are somewhat informed about the regeneration programme	0.46 (0.66)	0.49	-0.84, 1.76
You are fully informed about the regeneration programme	1.3 (0.25)	0.001	0.81, 1.79
Residents' time commitment			
Amount of your own time you have to give up to ensure your views are heard.	-0.18 (0.03)	0.001	-0.24, -0.13
Inclusion*length of time lived in current area			
You never have the opportunity participate*length of time lived in current area	-	-	-
You have the opportunity to participate sometimes*length of time lived in current area	0.15 (0.11)	0.19	-0.07, 0.36
You have the opportunity to participate regularly*length of time lived in current area	0.02 (0.02)	0.35	-0.02, 0.06
Trust in Stakeholders*length of time lived in current area			
Decision making processes are not explained and no consideration of your views is evident*length of time lived in current area	-	-	-
Some decision making is explained and some consideration of your views is evident*length of time lived in current area	-0.08 (0.12)	0.51	-0.31, 0.15
Decision making processes are fully explained; you can see consideration of your views in local decisions*length of time lived in current area	-0.06 (0.04)	0.12	-0.13, 0.02
Sense of belonging*length of time lived in current area			
You do not know your neighbours and do not feel a valued member of the community*length of time lived in current area	-	-	-
You know some of your neighbours and feel a valued member	0.02 (0.14)	0.90	-0.26, 0.30

in the community*length of time lived in current area			
You know all your neighbours well and feel a valued member of the community*length of time lived in current area	-0.03 (0.03)	0.23	-0.1, 0.02
Resources/funding*length of time lived in current area			
None - there is no help or support of any kind*length of time lived in current area	-	-	-
Some - limited help and support is available*length of time lived in current area	-0.01 (0.04)	0.84	-0.09, 0.07
Yes - help and support is available*length of time lived in current area	0.05 (0.03)	0.11	-0.01, 0.12
Information/knowledge*length of time lived in current area			
You are not informed about the regeneration programme*length of time lived in current area	-	-	-
You are somewhat informed about the regeneration programme*length of time lived in current area	0.02 (0.07)	0.75	-0.11, 0.15
You are fully informed about the regeneration programme *length of time lived in current area	-0.01 (0.02)	0.85	-0.04, 0.03
Residents' time commitment*length of time lived in current area			
Amount of your own time you have to give up to ensure your views are heard*length of time lived in current area	-0.01 (0.01)	0.04	-0.007-0.001
Inclusion*I feel like I belong to my neighbourhood			
You never have the opportunity participate*I feel like I belong to my neighbourhood	-	-	-
You have the opportunity to participate sometimes*I feel like I belong to my neighbourhood	0.08 (0.37)	0.8	-0.66,0.81
You have the opportunity to participate regularly*I feel like I belong to my neighbourhood	0.02 (0.12)	0.9	-0.21, 0.24
Trust in Stakeholders*I feel like I belong to my neighbourhood			
Decision making processes are not explained and no consideration of your views is evident*I feel like I belong to my neighbourhood	-	-	-
Some decision making is explained and some consideration of your views is evident*I feel like I belong to my neighbourhood	0.25(0.28)	0.38	-0.3, 0.79
Decision making processes are fully explained; you can see consideration of your views in local decisions*I feel like I belong to my neighbourhood	-0.14 (0.17)	0.41	-0.48, 0.19
Sense of belonging*I feel like I belong to my neighbourhood			
You do not know your neighbours and do not feel a valued member of the community*I feel like I belong to my neighbourhood	-	-	-
You know some of your neighbours and feel a valued member in the community*I feel like I belong to my neighbourhood	0.1 (0.63)	0.88	-1.15, 1.34
You know all your neighbours well and feel a valued member of the community*length of time lived in current area	0.08 (0.13)	0.55	-0.18, 0.34
Resources/funding*I feel like I belong to my neighbourhood			
None - there is no help or support of any kind*I feel like I belong to my neighbourhood	-	-	-
Some - limited help and support is available*I feel like I belong to my neighbourhood	-0.09 (0.19)	0.63	-0.47, 0.28
Yes - help and support is available*I feel like I belong to my neighbourhood	0.16 (0.11)	0.16	-0.06, 0.37
Information/knowledge*I feel like I belong to my neighbourhood			
You are not informed about the regeneration programme*I feel like I belong to my neighbourhood	-	-	-
You are somewhat informed about the regeneration programme*I feel like I belong to my neighbourhood	-0.13 (0.3)	0.65	-0.71, 0.45
You are fully informed about the regeneration programme *I feel like I belong to my neighbourhood	-0.33 (0.12)	0.004	-0.56, -0.13

Residents' time commitment *I feel like I belong to my neighbourhood			
Amount of your own time you have to give up to ensure your views are heard*I feel like I belong to my neighbourhood	0.01 (0.01)	0.22	-0.01, 0.03
Residents' time commitment* *I like my neighbourhood as a place to live			
Amount of your own time you have to give up to ensure your views are heard*I like my neighbourhood as a place to live	-0.01 (0.01)	0.44	-0.02, 0.01
Information/knowledge*I keep informed of local decisions			
You are not informed about the regeneration programme* I keep informed of local decisions	-	-	-
You are somewhat informed about the regeneration programme* I keep informed of local decisions	0.16 (0.16)	0.36	-0.16, 0.46
You are fully informed about the regeneration programme * I keep informed of local decisions	0.17 (0.08)	0.03	0.02, 0.33
Residents' time commitment * I keep informed of local decisions			
Amount of your own time you have to give up to ensure your views are heard* I keep informed of local decisions	0.02 (0.01)	0.001	0.01, 0.04
Inclusion* I have lived in an area undergoing regeneration			
You never have the opportunity participate* I have lived in an area undergoing regeneration	-	-	-
You have the opportunity to participate sometimes* I have lived in an area undergoing regeneration	0.09 (0.69)	0.89	-1.26, 1.44
You have the opportunity to participate regularly* I have lived in an area undergoing regeneration	-0.02 (0.21)	0.91	-0.44, 0.39
Trust in Stakeholders*I have lived in an area undergoing regeneration			
Decision making processes are not explained and no consideration of your views is evident* I have lived in an area undergoing regeneration	-	-	-
Some decision making is explained and some consideration of your views is evident* I have lived in an area undergoing regeneration	-0.39 (0.51)	0.48	-1.4, 0.92
Decision making processes are fully explained; you can see consideration of your views in local decisions* I have lived in an area undergoing regeneration	-0.1 (0.31)	0.76	-0.71, 0.52
Sense of belonging*I have not lived in an area undergoing regeneration			
You do not know your neighbours and do not feel a valued member of the community* I have lived in an area undergoing regeneration	-	-	-
You know some of your neighbours and feel a valued member in the community* I have lived in an area undergoing regeneration	-0.05 (1.17)	0.97	-2.34, 2.38
You know all your neighbours well and feel a valued member of the community* I have lived in an area undergoing regeneration	-0.36 (0.25)	0.14	-0.84, 0.12
Resources/funding* I have lived in an area undergoing regeneration			
None - there is no help or support of any kind* I have lived in an area undergoing regeneration	-	-	-
Some - limited help and support is available* I have lived in an area undergoing regeneration	-0.49 (0.36)	0.18	-1.2, 0.22
Yes - help and support is available* I have lived in an area undergoing regeneration	-0.44 (0.21)	0.03	-0.84, -0.04
Information/knowledge* I have lived in an area undergoing regeneration			
You are not informed about the regeneration programme* I have lived in an area undergoing regeneration	-	-	-
You are somewhat informed about the regeneration programme* I have lived in an area undergoing regeneration	-0.70 (0.51)	0.17	-1.69, 0.29

You are fully informed about the regeneration programme * I have lived in an area undergoing regeneration	-0.44 (0.18)	0.01	-0.8, -0.09
Residents' time commitment* I have lived in an area undergoing regeneration			
Amount of your own time you have to give up to ensure your views are heard*I have not lived in an area undergoing regeneration	0.02 (0.01)	0.10	-0.01, 0.04
Likelihood ratio	149.12		
Pseudo R ²	0.5		
Prob > chi ²	0.00		
Number of observations	6584		

Testing Hypothesis Two MXL model

Attributes	Coefficient (SE)	P-value	95% CI
Inclusion			
You never have the opportunity participate	-	-	-
You have the opportunity to participate sometimes	0.62 (0.33)	0.06	-0.04, 1.27
You have the opportunity to participate regularly	0.61 (0.1)	0.00	0.42, 0.8
Trust in Stakeholders			
Decision making processes are not explained and no consideration of your views is evident	-	-	-
Some decision making is explained and some consideration of your views is evident	0.32 (0.23)	0.17	-0.14, 0.77
Decision making processes are fully explained; you can see consideration of your views in local decisions	0.65 (0.15)	0.00	0.37, 0.94
Sense of belonging			
You do not know your neighbours and do not feel a valued member of the community	-	-	-
You know some of your neighbours and feel a valued member in the community	1.0 (0.6)	0.05	-0.18, 2.12
You know all your neighbours well and feel a valued member of the community	0.68 (0.12)	0.00	0.45, 0.91
Resources/funding			
None - there is no help or support of any kind	-	-	-
Some - limited help and support is available	0.08 (0.16)	0.61	-0.24, 0.40
Yes - help and support is available	0.32 (0.09)	0.01	0.14, 0.50
Information/knowledge			
You are not informed about the regeneration programme	-	-	-
You are somewhat informed about the regeneration programme	0.27 (0.39)	0.48	-0.49, 1.03
You are fully informed about the regeneration programme	0.44 (0.18)	0.01	0.09, 0.79
Residents' time commitment			
Amount of your own time you have to give up to ensure your views are heard	-0.05 (0.01)	0.001	-0.06, -0.04
Residents' time commitment*Some form of employment			
Amount of your own time you have to give up to ensure your views are heard* Employed	-0.03 (0.01)	0.004	-0.04, -0.01
Likelihood ratio	164.80		
Pseudo R ²	0.3		
Prob > chi ²	0.00		
Number of observations	6584		

Testing Hypothesis Three MXL Model

Attributes	Coefficient (SE)	P-value	95% CI
Inclusion			
You never have the opportunity participate	-	-	-
You have the opportunity to participate sometimes	2.51 (1.44)	0.08	-0.31, 5.34
You have the opportunity to participate regularly	0.94 (0.51)	0.06	-0.05, 1.94
Trust in Stakeholders			
Decision making processes are not explained and no consideration of your views is evident	-	-	-
Some decision making is explained and some consideration of your views is evident	0.02 (1.32)	0.99	-2.57, 2.61
Decision making processes are fully explained; you can see consideration of your views in local decisions	0.62 (0.33)	0.06	-0.02, 1.26
Sense of belonging			
You do not know your neighbours and do not feel a valued member of the community	-	-	-
You know some of your neighbours and feel a valued member in the community	2.22 (2.59)	0.39	-2.87, 7.30
You know all your neighbours well and feel a valued member of the community	1.96 (0.65)	0.01	0.67, 3.23
Resources/funding			
None - there is no help or support of any kind	-	-	-
Some - limited help and support is available	0.57 (0.84)	0.48	-1.05, 2.22
Yes - help and support is available	0.61 (0.53)	0.26	-0.44, 1.67
Information/knowledge			
You are not informed about the regeneration programme	-	-	-
You are somewhat informed about the regeneration programme	0.41 (1.21)	0.74	-1.96, 2.77
You are fully informed about the regeneration programme	1.51 (0.49)	0.002	0.55, 2.47
Residents' time commitment			
Amount of your own time you have to give up to ensure your views are heard.	-0.22 (0.03)	0.001	-0.89, 0.68
Inclusion*Better stated health			
You never have the opportunity participate* Better stated health	-	-	-
You have the opportunity to participate sometimes* Better stated health	-0.10 (-0.40)	0.80	-0.89, 0.68
You have the opportunity to participate regularly* Better stated health	-0.12 (0.12)	0.31	-0.35, 0.11
Trust in Stakeholders* Better stated health			
Decision making processes are not explained and no consideration of your views is evident* Better stated health	-	-	-
Some decision making is explained and some consideration of your views is evident* Better stated health	-0.25 (0.29)	0.39	-0.82, 0.32
Decision making processes are fully explained; you can see consideration of your views in local decisions* Better stated health	0.02 (0.17)	0.88	-0.30, 0.35
Sense of belonging* Better stated health			
You do not know your neighbours and do not feel a valued member of the community* Better stated health	-	-	-
You know some of your neighbours and feel a valued member in the community* Better stated health	-0.72 (0.68)	0.29	-2.04, 0.61

You know all your neighbours well and feel a valued member of the community* Better stated health	-0.20 (0.14)	0.16	-0.48, 0.08
Resources/funding* Better stated health			
None - there is no help or support of any kind* Better stated health	-	-	-
Some - limited help and support is available* Better stated health	-0.12 (0.20)	0.57	-0.52, 0.28
Yes - help and support is available* Better stated health	-0.10 (0.12)	0.39	-0.33, 0.13
Information/knowledge* Better stated health			
You are not informed about the regeneration programme* Better stated health	-	-	-
You are somewhat informed about the regeneration programme* Better stated health	-0.08 (0.29)	0.78	-0.65, 0.49
You are fully informed about the regeneration programme* Better stated health	-0.09 (0.11)	0.42	-0.29, 0.12
Residents' time commitment* Better stated health			
Amount of your own time you have to give up to ensure your views are heard* Better stated health	-0.01 (0.01)	0.88	-0.01, 0.01
Inclusion*Higher SWEMWBS			
You never have the opportunity participate* Higher SWEMWBS	-	-	-
You have the opportunity to participate sometimes* Higher SWEMWBS	-0.07 (0.06)	0.24	-0.18, 0.05
You have the opportunity to participate regularly* Higher SWEMWBS	-0.01 (0.02)	0.86	-0.08, 0.14
Trust in Stakeholders* Higher SWEMWBS			
Decision making processes are not explained and no consideration of your views is evident* Higher SWEMWBS	-	-	-
Some decision making is explained and some consideration of your views is evident* Higher SWEMWBS	0.03 (0.06)	0.60	-0.08, 0.14
Decision making processes are fully explained; you can see consideration of your views in local decisions* Higher SWEMWBS	0.05 (0.07)	0.72	-0.02, 0.18
Sense of belonging* Higher SWEMWBS			
You do not know your neighbours and do not feel a valued member of the community* Higher SWEMWBS	-	-	-
You know some of your neighbours and feel a valued member in the community* Higher SWEMWBS	0.01 (0.11)	0.94	-0.2, 0.22
You know all your neighbours well and feel a valued member of the community* Higher SWEMWBS	-0.04 (0.03)	0.19	-0.09, 0.02
Resources/funding* Higher SWEMWBS			
None - there is no help or support of any kind* Higher SWEMWBS	-	-	-
Some - limited help and support is available* Higher SWEMWBS	-0.01 (0.03)	0.72	-0.08, 0.05
Yes - help and support is available* Higher SWEMWBS	-0.01 (0.02)	0.86	-0.05, 0.04
Information/knowledge* Higher SWEMWBS			
You are not informed about the regeneration programme* Higher SWEMWBS	-	-	-
You are somewhat informed about the regeneration programme* Higher SWEMWBS	0.01 (0.05)	0.84	-0.09, 0.11
You are fully informed about the regeneration programme * Higher SWEMWBS	-0.02 (0.02)	0.28	-0.01, 0.02
Residents' time commitment * Higher SWEMWBS			
Amount of your own time you have to give up to ensure your views are heard* Higher SWEMWBS	0.01 (0.01)	0.00	0.00, 0.02

Likelihood ratio

173.37

Pseudo R ²	0.4
Prob > chi2	0.00
Number of observations	6584

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