Health and the wider determinants of health over time in Glasgow's deprived communities: findings from the GoWell household survey

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GoWell

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Executive summary

Context

Area-based and housing-led regeneration has been underway in many parts of Glasgow over the past 10-15 years, since the transfer of the council's housing stock to Glasgow Housing Association in 2003. The transfer facilitated the financing of improvements to the housing stock, a new customer focus for the delivery of housing services through a federated structure comprising Local Housing Organisations (LHOs), and the declaration of a set of large and small regeneration areas across the city.

The period during which this housing-led regeneration has been taking place, and the period of our study itself, has coincided with significant political, social and economic changes which also impact on deprived communities such as the ones we are studying. These major changes include: a new political administration in Scotland with a focus on social democratic policies and tackling inequalities; new forms of migration that have brought large numbers of economic migrants and asylum seekers to the city; the global financial crisis and ensuing recession, which increased levels of unemployment; austerity measures which have negatively impacted incomes for those in low-paid employment and on welfare benefits; and cuts in public service that have been shown to affect lower income groups and poor communities more than others. Thus, regeneration has been trying to pursue goals of improving the quality of life for communities at a time when wider forces make that more difficult to achieve.

GoWell

GoWell is a quasi-experimental study of the health and wellbeing impacts of these activities for individuals and communities.

There are 15 study areas in GoWell, grouped into five Intervention Area Types (IATs). Two of the IATs comprise regeneration areas: Transformation Regeneration Areas (TRAs) and Local Regeneration Areas (LRAs) where a mixture of housing stock demolition, new build housing, and housing improvements have been taking place.

Three of the IATs are non-regeneration areas: Wider Surrounding Areas (WSAs) which receive many of the people relocated from the regeneration areas; Housing Improvement Areas (HIAs) which tend to be popular, mixed-tenure communities; and Peripheral Estates (PEs), where new private housing developments were planned for former social housing estates. All the non-regeneration areas have seen widespread improvements of the social housing stock.

Residents of the 15 study areas have been surveyed on four occasions over the past decade. This report presents analysis of changes in the responses from the first survey in 2006 (wave 1) to the last survey in 2015 (wave 4), thus comparing results from two cross-sectional surveys of approximately 6,000 and 3,500 participants,

respectively. Since these are not necessarily the same respondents at the two time points (although some of them are the same) the findings represent overall changes for the study areas, not changes for individuals.

The responses from the two waves are analysed as linear changes from time-point 1 (2006) to time-point 2 (2015) for each of the five IATs; intermediate fluctuations in the variables are not considered here. A statistical test is used to assess whether the changes for each IAT have a less than 5% chance of being a random result, and therefore can be said to be statistically significant.

As well as examining whether indicators have changed over time for residents of each IAT, the report also considers whether inequalities in outcomes between IATs have changed over time. Our benchmark for this is whether the ratio of the highest to lowest value of a variable for the five IATs has increased or decreased by at least a fifth in the intervening period.

The findings in this report form the first part of our assessment of the contribution of housing improvements and regeneration to enhancements in the quality of life of residents, looking at a set of indicators comprising the wider determinants of health, as well as indicators of health and wellbeing themselves.

The findings presented here are descriptive of holistic changes that regeneration seeks to bring about over time. The analysis does not assess the contribution which factors other than regeneration activity may have made (for better or worse) to the outcomes which have been considered. Nor does the analysis investigate the relationships between the variables examined and the causal mechanisms that may be at work.

Environmental factors

There has been widespread improvement in housing outcomes for residents over time, across all the IATs.

The greatest improvements in housing indicators occurred in the regeneration areas.

Inequalities in satisfaction with housing and housing services between IATs narrowed over time, with the exception of feelings of safety within the home, where inequalities widened.

Many indicators of satisfaction with the neighbourhood overall, the local environment and local amenities improved over time in most IATs. The exception was youth and leisure services, where resident assessments worsened over time in some IATs.

Several neighbourhood environmental indicators showed the greatest improvement in the regeneration areas.

Inequality in overall neighbourhood satisfaction reduced over time, but other neighbourhood environmental inequalities widened over time.

Some antisocial behaviour problems (vandalism etc.; teenagers hanging around on the street) improved in all IATs, while others (drug taking; drunken and rowdy behaviour) improved in some IATs while not changing, or worsening, elsewhere.

Regeneration areas showed the most consistent improvement across all indicators of antisocial behaviour problems.

Inequalities in antisocial behaviour problems reduced over time.

Social factors

Changes in social outcomes over time were mixed. None of the indicators showed consistent patterns of change across the IATs, and there were as many cases where indicators worsened over time as there were cases of improvement.

The two types of regeneration area diverged in terms of their experiences on social indicators. The most consistent performance came in the TRAs where four out of five indicators improved over time. More of the social indicators worsened in the LRAs than improved.

Inequalities between the IATs in sense of belonging, social contacts, and social support narrowed over time, whereas inequalities on indicators of cohesion remained unchanged or worsened over time.

Psychosocial factors

Personal and internal (to the neighbourhood) psychosocial indicators of status improved over time in all IATs, i.e. feelings of personal progress derived from homes and neighbourhoods, and the reputation of neighbourhoods among their own residents.

External-facing psychosocial indicators were less consistent. Residents' assessments of the desirability of their homes to other people improved in some IATs but not others. The perceived reputation of the neighbourhood among those living elsewhere showed no improvement and worsened over time in some IATs, including the TRAs where physical changes had been most evident. Inequalities between IATs in external reputations worsened over time.

Empowerment indicators related to both housing and neighbourhoods improved over time consistently across four of the IATs.

On all five empowerment indicators, the largest improvements were in the regeneration areas. In contrast, only two of the empowerment indicators showed improvement in the WSAs.

Inequalities between IATs on empowerment indicators narrowed over time.

Economic factors

The picture regarding changes in employment across the IATs is varied.

The two types of regeneration area differed in their experience of employment change. In the TRAs, employment rates improved for both men and women, and households with no one of working age in employment reduced over time. In the LRAs, households with no one of working age in employment also reduced, but employment rates were unchanged and there were increases in long-term sickness and disability for both men and women.

The better performance of the TRAs may be due to changes (reductions) in resident populations, which mean that changes in proportions can result from very small numbers of people moving in or out of employment.

The non-regeneration areas showed no consistent patterns of change, with improvements on one or two indicators in some areas, but not others.

There was a contrast between the regeneration areas and non-regeneration areas in respect of indicators of poverty. In the TRAs and LRAs, difficulties paying for fuel and food decreased over time, but in the HIAs and PEs, those two difficulties increased over time. There was no significant change in the WSAs.

Housing costs became more affordable for owner-occupiers over time in all IATs, while social rents became more affordable in the regeneration areas and the HIAs. Only the TRAs showed any significant change in the affordability of private rents, with difficulties reducing over time.

Apart from men's employment rates, inequalities between the IATs on the economic indicators reduced over time.

Health and wellbeing

There was widespread deterioration over time on two of the health indicators: fewer people thought their health was 'very good' or 'excellent' than in the past; more people reported a long-term mental health problem of stress, anxiety or depression. The first of these changes is in contrast to a stable situation nationally regarding self-assessed health. The second change reflects a national trend of rising symptoms of anxiety and depression among Scottish adults over the same period.

All three mental wellbeing indicators improved over time in the TRAs, the only IAT where this occurred. The picture elsewhere was mixed: two of the indicators improved in the WSAs; two of the indicators declined in the HIAs. These changes in wellbeing are in contrast to stable wellbeing scores nationally over the same period.

Improvements were seen for two health behaviours, with signs of a worsening for two others.

Rates of regular neighbourhood walking increased in four of the five IATs. Rates of

smoking reduced in three IATs, with an increase in intentions to quit smoking in four IATs. The change in smoking rates in our study IATs is similar to the reduction in the national rate of smoking over the same period, although the smoking rate is still between one-and-a-half and twice the national rate in each of our IATs. The intention to quit smoking is lower among smokers in our study than nationally.

The percentage of people who drink alcohol increased in all IATs. Consumption of fast food main meals increased in two IATs. The change in alcohol consumption runs counter to a national trend of reducing alcohol consumption across the Scottish population, although the number of non-drinkers is still higher in the GoWell study areas than nationally.

Inequalities between the IATs reduced over time for general and physical health indicators, for two out of three mental wellbeing indicators, and for rates of current drinking.

The only health behaviour where inequalities changed over time, was an increase in inequalities in neighbourhood walking due to lower rates of walking in the WSAs.

Regeneration

Regeneration across the city over the last decade appears to have impacted upon residents' assessments of the quality of their housing and neighbourhood environments, and upon their feelings of status and empowerment. Improvements in these regards were greatest in the regeneration areas, but were widespread to a lesser degree elsewhere too, and are likely to be a product of the effects, visibility and processes of change.

The weaker performance of the Wider Surrounding Areas compared with the regeneration areas in the environmental, social and psychosocial domains may point to a need for more consideration for these areas in future regeneration programmes. There is a question as to how to support adjacent areas affected both directly (though receiving incoming, relocated residents) and indirectly (through awareness, observation and curiosity about change nearby, or by priority being given to nearby areas) by regeneration.

The absence of improvement in participants' ratings of perceived external reputations of areas suggests that strategies to change the image and perceptions of deprived areas may have been absent from regeneration strategies, or they have been ineffective. Again, this is something for future programmes to consider.

Physical and social changes in the Transformational Regeneration Areas have been associated with improvements in people's sense of community and social contact and support compared with the situation at the start of the process of change. Whether this is a permanent improvement, or a temporary product of the recent advent of newly developed neighbourhoods with a proportion of new residents, is something we can only know in due course. Reductions in a number of antisocial behaviour problems in regeneration areas may be more likely to be sustained as they

are probably a product of the changes brought about by regeneration in both resident populations and to environments previously conducive to antisocial behaviour.

Elsewhere, there are signs of a declining sense of community and reduced social contact in a number of places. How this might be combated through services, amenities and community development activity is something the relevant authorities and agencies might consider. In this regard, the experience of the Housing Improvement Areas and the Peripheral Estates, which often exhibit the highest values on many of the social indicators, may be worthy of further examination.

The fact that the Transformational Regeneration Areas have exhibited improved employment rates but the Local Regeneration Areas have not, suggests that the changes in the former may be due more to population changes than to improved economic fortunes or successful employment support services, but we cannot tell for certain. The fact that employment indicators also improved in the Wider Surrounding Areas, where many relocated residents now live, suggests that an additional factor could be changes in status experienced by asylum seekers and refugees, and the experience of migrants gaining employment over time.

Housing-led regeneration may have contributed to mitigating affordability difficulties in regeneration areas, where problems paying for food, fuel and housing have reduced over time more so than elsewhere. However, it is still the case that affordability difficulties are more prevalent in the regeneration areas than elsewhere, so there are limits to what regeneration can currently achieve in this regard. Meanwhile, affordability difficulties are slowly on the rise elsewhere, and this needs close monitoring and a broader response.

We have not found the improvements in residential environments reflected in improvements in general and mental health; this concurs with most past evidence on regeneration, but not with the recent evidence of small improvements in residents' health in regeneration areas in England. The lack of impact in Glasgow may be due to the more challenging context of poor health in the city. On the other hand, the improvements noted in residents' feelings of status and empowerment in regeneration areas in Glasgow are reflected in improvements in mental wellbeing, at least in the TRAs, which suggests that large-scale change, implemented in the right way with community involvement, can have positive wellbeing impacts.

Changes in health behaviours over time do not exhibit patterns which suggest particular gains in regeneration areas. Improvements in relation to smoking and/or intention to quit smoking and increased rates of neighbourhood walking are widespread across different types of area and probably reflect general trends. Similarly, though in the opposite direction, increases in the number of people who drink alcohol are widespread across all areas. In addition, the large numbers of people who identify both drug use/dealing and drinking/rowdiness as neighbourhood problems, in regeneration areas a elsewhere, indicates a need to find more effective ways to tackle these issues within all communities, addressing them at both an individual and collective level.

Further analysis

This report has provided a description of change over time in health indicators and in some of the wider determinants of health in the GoWell Intervention Area Types (IATs). Further analysis is required to examine how health outcomes may differ between different population groups (e.g. genders; household types; ethnicities) and different resident groups (e.g. those who have moved house and those who have not; those who live in newly built houses and those who live in improved or unimproved houses). The pathways between wider changes and health outcomes have also to be examined so that we may consider whether some changes brought about by regeneration are more closely linked to changes in health outcomes for residents than others.

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Introduction

1.1. Background

The changing context since the Millennium

Over the period during which housing improvement and regeneration programmes have been implemented across the city, there have been other major changes in society that affect deprived communities such as those we are studying. Politically, the Scottish Government which came into being in 1999 with devolved powers to determine policy in key areas that affect the fortunes of poor communities – such as health, education and economic development – changed hands in 2007 from the Labour-Liberal Democrat coalition to Scottish National Party (SNP) minority control. The advent of a nationalist government in a devolved administration is said to have opened up space for a more social democratic approach to policy-making and a greater emphasis on the development of social policies[1], which could benefit deprived communities.

The city has experienced changes as a result of UK and international events and trends. Socially, like many other UK towns and cities, Glasgow has seen a rapid increase in its ethnic diversity due to economic migration and the hosting of asylum seekers. From 2001 to 2011, the city's ethnic minority population doubled from 7% to 15%. There are estimated to be over 10,000 refugees with leave to remain in the city, who tend to be concentrated in some of the most deprived, social housing estates including several that form part of the GoWell study.

In economic terms, both the global financial crisis and the UK government's response to it have negatively impacted the city of Glasgow and its poorest communities. In the four years following the start of the recession, unemployment in Glasgow rose by half (from 8% to 12%) before returning to near its previous level by 2016[2]. Austerity measures in the form of cuts to welfare benefits have been shown to have most impact on older industrial areas such as Glasgow, in terms of the amount of money lost to the local economy in the form of income per head[3]. At the same time, local authorities have faced reductions in their budgets, with a loss of approximately 11% in revenue funding by Glasgow from 2010/11 to 2017/18[4]. Analysis of the impacts of cuts to staffing and service spending across council services in English and Scottish local authorities has shown two key things: firstly, that the poorest local authorities face the largest proportionate reductions in spending; and, secondly, that services that affect quality of life in poor communities are often soft targets for cuts, such as neighbourhood environmental services and services for children and young people[5]. This context of austerity and public service cuts in recent years will affect some of the outcomes being sought through regeneration.

[1] Scott G, Mooney G. Poverty and social justice in the devolved Scotland: Neoliberalism meets social democracy. *Social Policy and Society* 2009;8(3):379-389.

[2] See: Understanding Glasgow. *Economic participation. Overview*. http://www.understandingglasgow.com/indicators/economic_participation/overview

[3] Beatty C, Fothergill S. *Hitting the poorest places hardest: the local and regional impact of welfare reform*. Sheffield: CRESR, Sheffield Hallam University; 2013.

[4] Accounts Commission. *Local Government in Scotland: Performance and Challenges 2017*. Edinburgh: Audit Commission; 2017.

[5] Hastings A, *et al*. *The Cost Of The Cuts: The Impact On Local Government And Poorer Communities*. York: Joseph Rowntree Foundation; 2015.

Housing and regeneration in Glasgow

The first two aims of Glasgow City Council's housing strategy from 2003 onwards were to promote the regeneration of the city and to raise housing standards in all tenures[6]. A major route to achieving these aims was the wholesale transfer of the Council's housing stock to Glasgow Housing Association (GHA) in 2003, which opened up further investment opportunities and changed the means of delivery for housing-based services to the majority of the city's social sector tenants. As well as levering public and private funding into the improvement of the housing stock, transfer to GHA also entailed the creation of a network of Local Housing Organisations, to manage the social housing in a devolved manner with community involvement, within an overall federated structure. At the same time, Glasgow City Council (GCC) became the strategic housing authority, acquiring powers to plan private sector housing in the city and distribute development funding for new housing to the Registered Social Landlords (RSLs)[7].

Over the subsequent 10-15 years, there have been a number of components of regeneration enacted across the city, particularly (though not exclusively) in areas of predominantly social housing, including:

- Demolition of obsolete housing stock, mainly comprising high-rise buildings, and its replacement by lower-density housing of mixed tenure. This predominantly took place in eight large and seven smaller regeneration areas identified jointly by Glasgow City Council and Glasgow Housing Association[8]. A demolition programme of around 19,000 dwelling units was eventually determined[9]. These regeneration areas are now governed by a new partnership organisation, Transforming Communities: Glasgow (TCG). TCG was established in 2012 as a partnership between Glasgow City Council, Glasgow Housing Association and the Scottish Government to oversee the delivery of regeneration in the city's eight Transformational Regeneration Areas (TRAs).
- The improvement of all remaining social housing stock to bring it up to and beyond the Scottish Housing Quality Standard set by the Scottish Government in 2004[10]. GHA identified 49,000 dwelling units as 'core stock' intended to receive housing investment works[11].
- The continued development of mixed-tenure communities both as a result of the redevelopment of regeneration areas and through the Council's facilitation of private sector housing development, including within former social housing estates. As the new strategic housing authority developed, the City Council's housing plans during this period made clear that new build housing was intended to contribute to regeneration by helping to retain working-age and family households within the city in attractive, low rise, mixed tenure neighbourhoods with high environmentally-sustainable standards[12]. The most recent housing plan also emphasises the development of 'intermediate

[6] Glasgow City Council. *Glasgow's Local Housing Strategy (LHS) 2003-2008*. Glasgow: GCC; 2003.

[7] Gibb K. Transferring Glasgow's council housing: financial, urban and housing policy implications. *European Journal of Housing Policy* 2003;3(1):89-114.

[8] Glasgow Housing Association (2005) *Regeneration Projects: Processes and Guidance Notes* and Glasgow City Council (2007) *Priority Regeneration Areas – A New Approach to Delivery*.

[9] Glasgow Housing Association. *Asset Management Position Statement*. Glasgow: GHA; 2006.

[10] Communities Scotland. *Scottish Housing Quality Standard Progress Report*. Edinburgh: CS; 2007.

[11] Glasgow Housing Association. *Asset Management Position Statement*, p.13. Glasgow: GHA; 2006.

[12] Glasgow City Council. *Glasgow's Housing Strategy 2003-2008*. Glasgow: GCC; 2004.

tenures' such as mid-market rental housing and shared ownership as ways of making priority investment areas mixed-tenure and attractive to private developers[13].

- The expansion of the wider role of RSLs to include a range of community and personal support programmes for their tenants. The Scottish Government has supported this through a 'Wider Role' policy statement and Wider Role Fund. In the case of GHA, these wider role activities have included among other things: activities for older people; a handyman service; financial inclusion services; and energy advice. These services were initially delivered as part of GHA's neighbourhood renewal strategy[14], but now form part of a wider range of tenancy and community support services[15].
- The empowerment of communities as a result of the regeneration process. This has been facilitated both through consultation exercises with communities to create master plans for the redevelopment of regeneration areas, and through the secondary transfer of GHA housing stock to Local Housing Organisations (LHOs) and smaller Registered Social Landlords (RSLs) over time. More recently, opportunities for communities to engage in their own development and support activities have increased as a result of the Scottish Government's Community Empowerment legislation, strategy and funding[16]. This continues a sequence of funding mechanisms to support community-led projects and social regeneration through the Community Regeneration Fund and Fairer Scotland Fund. Within Glasgow, the *Thriving Places* initiative is a mechanism for using RSLs as hubs for community empowerment[17].
- A new approach to improving public services through the creation of Community Planning Partnerships (CPPs), established in 2004. These partnerships bring together the major public agencies in the city to better plan and co-ordinate public services and develop them in line with the views of communities, gathered through enhanced engagement processes[18].

[13] Glasgow City Council (undated) *Glasgow's Housing Strategy 2017-2022*. Glasgow: GCC.

[14] Glasgow Housing Association. *Neighbourhood Renewal Strategy 2005-07. Strategy and Action Plan*. Glasgow: GHA; 2005.

[15] See: Glasgow Housing Association. *Ways we can help*. https://www.gha.org.uk/ways-we-can-help

[16] See Community Empowerment Action Plan (2009) and the Community Empowerment Act 2015.

[17] See *Glasgow's Housing Strategy 2017-22*, p.37.

[18] Glasgow Community Planning Partnership. *Our Vision for Glasgow. Community Plan 2005-2010*. Glasgow: GCPP; 2005.

GoWell study

GoWell is a long-term study of the health and wellbeing impacts of housing investment and area regeneration programmes across the city of Glasgow. The research commenced in 2005 and is a mixed-methods study, combining quantitative and qualitative primary research and secondary data analysis for selected study areas. The findings are often compared with Glasgow and Scotland as a whole. The primary aims of the study are to:

- evaluate the health and wellbeing effects of a number of interventions delivered as part of a programme of regeneration.
- investigate the mechanisms or pathways to those impacts, including environmental, social and psychosocial pathways.
- monitor change over time in the wider determinants of health in the study areas.
- assess whether inequalities in health have been reduced through regeneration.

Study areas and groupings

Fifteen study areas are included in GoWell (see Figure 1.1). They were selected to represent a range of types of regeneration intervention underway in the city in 2005, as described below. All the study areas are among the most deprived communities in Scotland, for example falling within the 15% most income deprived neighbourhoods in the country in 2005[19].

Transformational Regeneration Areas (TRAs)
Places where major investment is underway, involving a substantial amount of demolition and rebuilding over a long period. Many residents who remained in these neighbourhoods during the study period were waiting to relocate while nearby properties were cleared for demolition.
Study areas: Red Road, Shawbridge (Pollokshaws), Sighthill.

Local Regeneration Areas (LRAs)
Places where a more limited amount and range of restructuring is taking place, and on a much smaller scale than in TRAs.
Study areas: Gorbals Riverside, Scotstoun, St Andrews Drive.

Wider Surrounding Areas (WSAs)
Places of mixed housing types surrounding areas of multi-storey flats subject to transformation plans, and being used for decanting purposes from the core investment sites. These areas also receive substantial amounts of core housing stock investment.
Study areas: Wider Red Road, Wider Scotstoun.

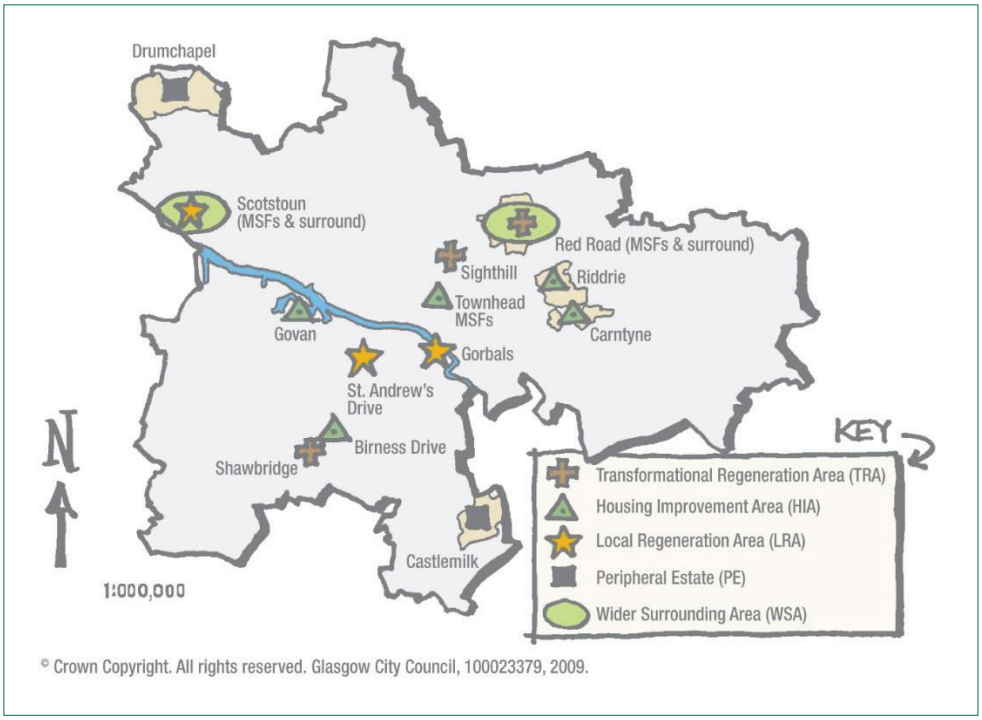
Housing Improvement Areas (HIAs)
Places that are considered to be popular and functioning successfully, but where significant improvements are required to dwellings, both internally and externally. Extensive property improvement works take place in these areas.
Study areas: Birness Drive*, Carntyne, Govan, Riddrie, Townhead
* Added to the GoWell study at wave 2.

[19] Walsh D. *Health and Wellbeing in Glasgow and the GoWell Areas – Deprivation Based Analyses*. Glasgow: GoWell; 2008.

Peripheral Estates (PEs)
Large-scale housing estates on the city boundary where incremental changes are taking place, particularly in terms of housing. These estates were originally entirely social rented but as a result of the Right to Buy scheme and private developments in recent years there is now a significant element of owner-occupied as well as rented housing. Private housing development and housing association core stock improvement works both take place on these estates.
Study areas: Castlemilk, Drumchapel.

By the time of our wave 4 survey in 2015, the housing interventions had been variously progressed across the study areas. In the regeneration areas (TRAs and LRAs) the clearance and demolition process had been completed. In the TRAs, 'core community' members were given an undertaking to remain in their area if they wished, or alternatively offered housing choices in other areas. By 2015, the majority (but not all) of the original residents had chosen to move out of the areas, the tower blocks had been demolished, and a small proportion of the original, low-rise housing stock had been retained and improved. The construction of a proportion of the planned new social housing had been completed in all three areas (Red Road, Sighthill and Shawbridge), but most of the new construction (social and private sector housing) had yet to be provided. In the LRAs, some clearance and demolition had taken place, but the majority of the original housing stock (low-rise and high-rise) had been improved. As a result of the clearance process, the two WSAs had received significant numbers of relocated tenants, some into a number of new social housing developments built for this purpose, particularly in the Wider Red Road area. In addition, most of the social housing in the WSAs had been improved, which was also the case in the HIAs. Both the HIAs and the PEs had seen some new housing developments for the social and private sectors, though not as much private sector development as originally planned in the case of the PEs.

Figure 1.1: GoWell study areas by Intervention Area Type (IAT).



Aim and structure of the report

This report forms part of our assessment of the contribution of housing improvement and housing-led regeneration to the improvement of health and wellbeing among deprived communities in Glasgow, and to the narrowing of gaps in inequalities between the poorest and other areas over time, in terms of health outcomes and the wider determinants of health.

GoWell is a quasi-experimental research study, not a 'pure experiment'. The changes in outcomes over time within communities reported here may be the product of several types of factors, many of which we cannot separately identify, although we can sometimes draw inferences about the operation of the different factors from comparisons that we can make between different types of study area. The main types of factors that may have influenced area-level outcomes include:

- The housing and regeneration interventions (described above).
- Population changes within the study areas over time, both planned and unplanned. These changes are likely to impact on the study areas differentially.
- General trends and wider events such as the global financial crisis in 2008 and subsequent economic recession and government austerity measures from 2010 onwards. These factors are less likely to have differentially affected the study areas than population changes, although there will be some degree of variation as the study areas vary in employment rates and extent of welfare dependency.

In this report, we describe changes over time, between wave 1 (2006)[20] and wave 4 (2015) in a range of indicators of health and the wider determinants of health for each of the Intervention Area Types (IATs), to see which factors that affect people's health and wellbeing seem to be improving or worsening over time. We do this by grouping the outcome variables into five domains, dealt with in separate sections of the report in the following order: environmental factors; social factors; psychosocial factors; economic factors; and health and wellbeing. Our initial conclusions about progress on health and wellbeing and the contribution of housing and regeneration are given in the final section.

Our investigation of the impacts of the interventions will continue with analyses of spatial and inter-group inequalities in health over time using the study's longitudinal cohorts. The findings will be made available in due course through the publication of further reports and briefing papers from the study.

[20] Some variables of interest were introduced into the survey questionnaire after wave 1, or the wording of the question was changed sufficiently at wave 2 to make comparison with the first and final waves inappropriate. In these instances, which are explicitly mentioned in the report, comparisons are made between wave 2 and wave 4.

1.2. Methodology

Conduct of the GoWell surveys

GoWell uses a prospective quasi-experimental design to evaluate the effects of regeneration on a broad range of environmental, social, psychosocial, economic and health outcomes. The series of four community health and wellbeing surveys is the main source of analytical outputs for the project.

A baseline survey of tenants and home owners (or their partners) was carried out in 2006 (wave 1) in 14 study areas across Glasgow, comprising 33 sub-areas, and grouped into five Intervention Area Types (IATs). Three subsequent surveys were undertaken: in 2008, 2011 and 2015 (waves 2-4). These follow-up surveys also involved residents of an additional study area and of people who had moved out of some of the study areas, although, for analytical consistency with the study areas in the wave 1 sample, we do not consider the results from these two study groups in this report.

The sampling frames differed between the survey waves, to reflect changes in the population size of the study areas (e.g., reductions due to demolition, increases due to new build housing), and the requirement to develop a nested longitudinal cohort and to ensure large enough samples to investigate specific groups of residents (e.g., those in new build homes). Details of the sampling frames are summarised in Table 1.1.

Table 1.1. Sampling frames at each survey wave.

Wave	Year	Area	Sampling
1	2006	All Study Areas	Random stratified
2	2008	Regeneration Areas	All properties
		Non-Regeneration Areas	Random stratified
		Non-GoWell Areas	Previously interviewed households
3	2011	Regeneration Areas	All pre-existing properties
			All newbuild properties
		Non-Regeneration Areas	All addresses where an intervew had been obtained previously
			All newbuild properties
		Non-GoWell Areas	Previously interviewed households
4	2015	Regeneration Areas	All pre-existing properties
			All newbuild properties
		Non-Regeneration Areas	All addresses where an intervew had been obtained previously
			Households that had moved from a Regeneration Area
			All newbuild properties
		Non-GoWell Areas	Previously interviewed households

N.B. Participants interviewed in non-GoWell areas were excluded from the analyses presented in this report.

The four waves of surveys constitute a repeat cross-sectional design, by which we can examine changes that have happened at the IAT level over the nine-year period covered by the research programme, which is our objective in this report. However, the cross-sectional samples include a now-substantial longitudinal cohort of residents who were interviewed on two, three or four occasions. Although it is not the purpose of the present report, analysis of the longitudinal sample will in due course allow us to look at changes experienced by the same people over time within these neighbourhoods.

Achieved samples

Interviews achieved

The numbers of interviews achieved in the 14 study areas[21] at each wave are shown in Table 1.2.

Table 1.2. Number of participants interviewed in the 14 GoWell study areas at each wave, by Intervention Area Type.

IAT	Wave 1	Wave 2	Wave 3	Wave 4
TRAs	1,422	1,074	769	355
LRAs	717	798	672	559
WSAs	1,073	626	867	882
HIAs	1,357	1051	753	906
PEs	1,387	968	888	769
Total	5,956	4,517	3,949	3,471

The sample sizes are characterised by an overall wave-on-wave reduction in the number of interviews achieved, largely reflecting overarching project constraints on the size of the survey. However, the distribution of interviews within the separate Intervention Area Types, particularly the TRAs, also reflects: (1) changes in the number residential addresses due to the demolition of multi-storey flats and the construction of new build homes; and (2) particular efforts made to boost the sample of longitudinal participants and of residents of new build properties.

Response rates

Response rates within the study areas throughout all four waves are shown in Table 1.3.

Table 1.3. Percentage response rates achieved within GoWell study areas at each survey wave.

Wave	Response rate (%)
1	50.3
2	47.5
3	45.4
4	47.0

These rates are remarkably consistent, and very acceptable for a study of this nature, in which participants are relatively hard to reach, and perhaps less amenable to taking part as they are often invited to be interviewed as part of other studies taking place in deprived communities. It is also worth noting that survey response rates have been declining generally in the past 20 years. While the Scottish Health Survey achieved an adult response rate of 52% in 2015[22], this is a national survey conducted across a wider range of both deprived and more affluent communities. In this context, we consider the GoWell response rates to be very acceptable.

[21] Another study area, Birness Drive, was included from wave 2 onwards. However, for the sake of consistency, the data from participants in that study area have been excluded from the analyses in this report, even when they look at changes between wave 2 and wave 4.

[22] Campbell-Jack D, Hinchliffe S, Rutherford L. Eds. *The Scottish Health Survey 2015 Edition. Volume 1: Main Report*, p.6. Edinburgh: Scottish Government; 2016.

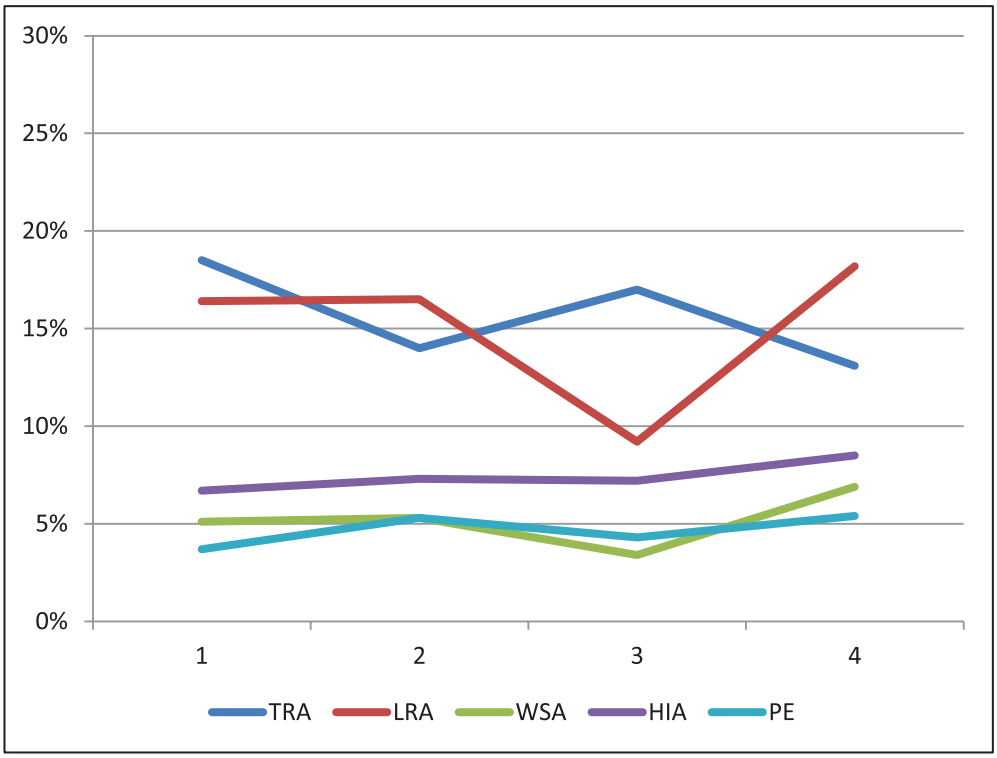
Nested longitudinal cohort

The intention to maximise the size of the longitudinal cohort over the four waves of the survey, while also achieving sizeable cross-sectional samples, meant that, for example, 18.6% of the respondents interviewed at wave 1 were also interviewed in one of the 14 GoWell study areas at wave 4. Likewise, 19.3% of respondents interviewed at wave 2 were also interviewed at wave 4, on both occasions in one of the study areas. These are overall figures, and it should be remembered that some longitudinal participants moved between study areas (and therefore contribute to the total number of longitudinal cases identified here) or moved to somewhere else in Glasgow (and so are not included in the total of longitudinal cases).

Dynamics of study area samples

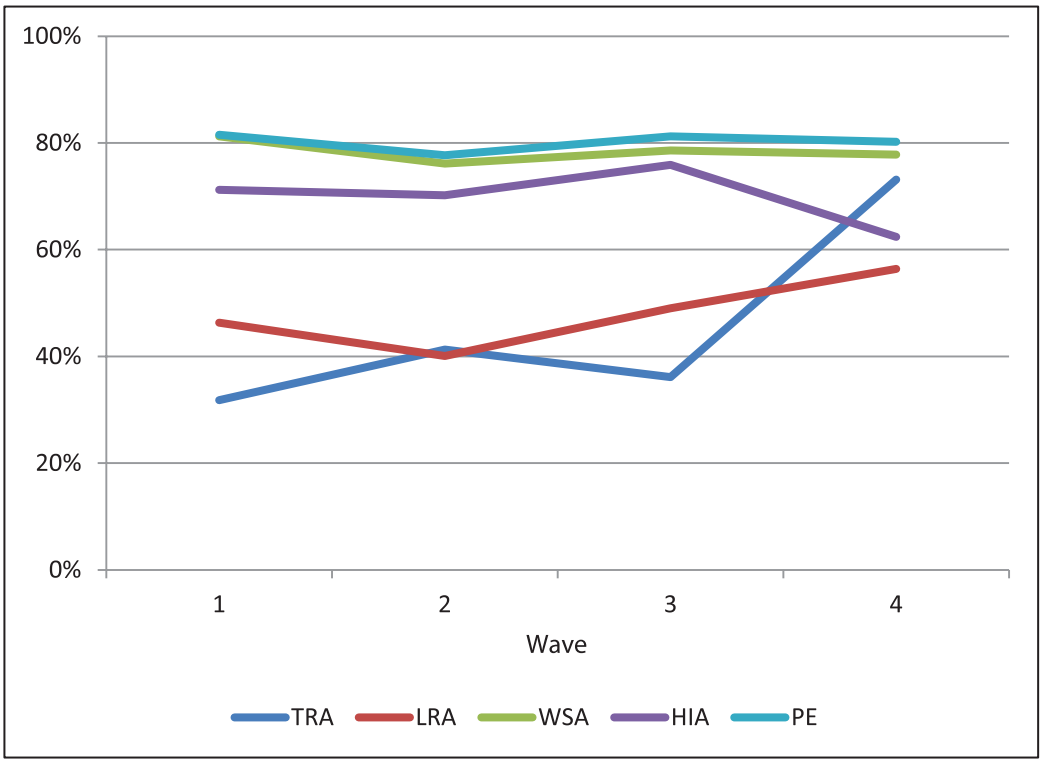
It is important to bear in mind the extent of residential change experienced over time when considering the findings presented here, as some areas will have experienced more population change than others and the findings will reflect this to some extent. The turnover, or stability, of the populations in the study areas is indicated by the length of time that respondents in the samples at each wave said they had lived in their area at the time of interview. A clear distinction between the regeneration and non-regeneration areas emerges from this comparison. There were considerably higher proportions of participants who had lived in their area for two years or less in the regeneration areas (TRAs, 13-19%; LRAs, 9-18%) than in the non-regeneration areas (WSAs, 3-7%; HIAs, 7-9%; PEs, 4-5%) at each wave (Figure 1.2).

Figure 1.2: Percentage of participants who had lived in the area for 2 years or less.



Conversely, the proportions of participants who had lived in their area for 11 years or more were, with one exception (in the TRAs at wave 4), much lower in the regeneration areas (TRAs, 32-73%; LRAs, 40-56%) than in the non-regeneration areas (WSAs, 76-81%; HIAs, 62-76%; PEs, 68-82%) (Figure 1.3).

Figure 1.3: Percentage of participants who had lived in the area for 11 years or more.



Thus, although a substantial number of the participants in all the IATs were long-term residents of their neighbourhoods – even in the TRAs, a minimum of approximately one-third of participants had lived in their area for at least 11 years – turnover of the population was much higher, and/or stability lower, in the regeneration areas than in the non-regeneration areas.

Weighting

To ensure as far as possible that the analyses reflect the populations from which the samples were drawn at each wave, a set of weights (numerical coefficients) was developed for all of the cases. In this way, the responses of people who possessed characteristics that were under-represented in the sample relative to the population they came from were given greater importance, while the importance of responses from residents with over-represented characteristics was downplayed. In this way, we can be more confident that the findings for IATs more accurately represent the balance of views held by all adults living there.

Each case was weighted with respect to the following characteristics:

1. Respondent's gender: male / female (by sub-area).
2. Respondent's age group: 16-24 / 25-39 / 40-54 / 55-65 / 65+ years (by sub-area).
3. Respondent's tenure: owned / social or private rented (by sub-area).
4. Adult population size in study area: sub-areas within study areas.
5. Adult population size in IATs: study areas within IATs.

Populations of adults (16+ years old) in the study areas and IATs (further classified by gender and age group at sub-area level) were estimated from the NHS Community Health Index

(CHI) records of GP registrations in the corresponding postcode units from August 2006, 2008 and 2011, and December 2015.

The frequencies of the two tenure types for households in each of the sub-areas were derived from the Glasgow City Council (GCC) Tax Register for March 2006, 2008, 2011 and 2015.

Weights are the product of the five coefficients whose values correspond to the particular circumstances of each respondent.

In order that highly under-represented cases were not given excessive importance, weights were constrained to have a value of no more than five. Finally, all weights were multiplied by a constant so that the total number of weighted cases was equal to the actual number of interviews achieved at each wave.

In broad terms, the weights corrected for the disproportionately high percentage of participants in the sample who were women, aged 55+ years, or living in a rented dwelling relative to the populations and distributions of tenures of the households in the study areas. The percentage over-representation of these groups in the four samples is shown in Table 1.4.

Development and cleaning of the dataset over the course of the project has prompted numerous small changes to improve its accuracy. Therefore, previously calculated weights were revised for use in the analyses presented here. This accounts for any small differences between the results presented here and equivalent ones published in earlier GoWell reports.

Table 1.4. Percentage composition of demographic characteristics and tenures in GoWell samples and study areas, by wave.

		Wave 1			Wave 2			Wave 3			Wave 4		
Variable	Category	Population	Sample	Sample over-representation (%)	Population	Sample	Sample over-representation (%)	Population	Sample	Sample over-representation (%)	Population	Sample	Sample over-representation (%)
Gender	Male	50.2	39.9		50.5	42.4		50.1	40.5		50.7	40.5	
	Female	49.8	60.1	10.3	49.5	57.6	8.1	49.9	59.5	9.6	49.3	59.5	10.2
Age group	16-54 y	72.0	61.7		72.8	63.6		72.7	62.6		70.7	57.0	
	55+ y	28.0	38.3	10.4	27.2	36.4	9.2	27.3	37.4	10.1	29.3	43.0	13.7
Tenure	Owned	28.0	23.4		28.7	17.5		29.7	16.6		29.2	19.0	
	Rented	72.0	76.6	4.6	71.3	82.5	11.2	70.3	83.4	13.1	70.8	81.0	10.1

Analysis

Within each of the five domains examined here, a prior selection was made of the variables to be examined within each domain, so as to represent a broad range of the wider determinants of health as well as measures of health and wellbeing itself. These variables tend to be items we have examined previously during the course of the study.

Outcomes were typically measured over a five-point ordinal scale (for example, 1: strongly agree; 2: agree; 3: neither agree nor disagree; 4: disagree; 5: strongly disagree). For simplicity of analysis, adjacent categories were combined to produce a dichotomous variable (for example, categories 1 & 2 versus 3-5, or 1 versus 2-5). Decisions about which categories to combine were made on a variable-by-variable basis to ensure that, as far as possible, the smaller category contained at least 20% of the responses, to make it easier to identify significant changes over time.

'Don't know' responses for opinion-based questions (i.e. those with ordinal responses) were usually considered to be equivalent to a neutral response (i.e., neither agree nor disagree, in the above example). For status-based questions (that is, those with nominal responses, such as those for employment status), cases with a 'don't know' response could not be otherwise categorised and were excluded from the analysis. Likewise, cases for which there was a 'not applicable' response or no answer, for whatever reason, could not be analysed and were excluded.

Our aim in this report is to provide a largely descriptive account of change over time in the GoWell study areas, rather than a series of complex multivariate statistical models. Data analysis was straightforward, to compare each outcome between wave 1 (or wave 2) and wave 4. Using the weighted data, percentages of one of the two category classes for each factor – usually considering the 'desirable' response (for example, being fairly or very satisfied with the home), but occasionally the 'undesirable' response (for example, being a smoker) – are presented graphically for the separate IATs over the two waves. Showing change as linear from the initial to the latest survey wave serves our purpose of summarising regeneration's achievements over the entire study period to-date, but it is a summary rather than a comprehensive account of change; there will also have been non-linear movements in many of the variables in the intervening survey waves, which have not been analysed here.

The statistical significance of the changes in each IAT over time was assessed using a Chi-square contingency test, which examines changes in the relative proportions of the two response categories between waves —the (un)desirable response versus all other valid responses. However, for the sake of brevity, below we refer to this in terms of "analysing the change in the percentages of the '(un)desirable' response category". Changes were considered to be significant if the test had an associated probability of $p<0.05$.

One of the aims of urban regeneration is to reduce inequalities. We consider these here in terms of the change between waves in the range of the percentages of people in the different IATs giving a particular response, seen as the narrowing (less inequality) or widening (more inequality) of the gap between the lines in the graphs. These are commented upon in cases of ≤0.8-fold or ≥1.25-fold differences in the ratio of ranges.

The results are presented in the following five sections, considering environmental, social, psychosocial, and economic factors, and health and wellbeing, in turn. For each variable, a chart is presented showing change over time in that variable for each of the IATs (using different coloured lines): solid lines indicate statistically significant changes over time, i.e. $p<0.05$; dotted lines indicate non-significant changes over time. In the text, where we mention percentage changes in variables over time, we are referring to absolute changes in the variables (e.g. from 6% to 12% is a change of +6%); if we refer to relative change in a variable the text will explicitly state this (e.g. a change from 6% to 12% being a relative doubling in value or a relative increase of 100%).

A table is provided at the end of each section that summarises the significant changes in each of the variables in that section by IAT. In these tables, the "+" symbol indicates a significant change towards a more frequent positive, or less frequent negative outcome, for example, an increase in the percentage of people satisfied with their home, or a decrease in the proportion of people smoking. Conversely, the "– " symbol indicates a significant change towards less frequently positive, or more frequently negative outcomes. The last column of the summary table shows reductions or increases in inequalities of outcomes between the IATs over time, indicated with a "√" for ≤0.8-fold or "X" for ≥1.25-fold changes, respectively, as described above.

Strengths and limitations

The report presents results from cross-sectional survey data, albeit through comparisons over time within the same study areas. As such, the findings comprise an overall description of change in the study areas, incorporating any changes in the resident population that regeneration or other processes have brought about.

However, as stated earlier, we cannot separate the effects of regeneration from the effects of other factors at this stage, nor can we identify the causal mechanisms for particular outcomes. It should also be noted that with this simple analysis we cannot draw any statistical conclusions about differences between the IATs, nor can we examine the likely correlations between the different outcome variables. Furthermore, in interpreting the outcomes, we cannot rule out an influence of unmeasured, wave-specific factors that may be responsible for at least some of the difference in the outcomes. Some of these issues will be taken into account in the course of subsequent, more detailed longitudinal analyses.

2 Environmental factors

2.1. Introduction

The environmental context within which people live has a strong influence on their circumstances, perceptions and health. The environmental domain is also the area in which most neighbourhood regeneration programmes aim to have their main effects.

This chapter compares the built, natural and social environments of the five Intervention Area Types.

First, considering the home itself, we examine residents' satisfaction with the home and housing services (social and private landlords or factors), and ratings of the dwelling's overall condition and external appearance, and the psychosocial benefit accruing from feeling safe in one's home.

Since it is possible that these aspects will vary with a resident's housing tenure it is worth at this stage considering how the tenure mix of the IATs may have changed over the study period (Table 2.1).

Table 2.1. Distribution of housing tenures (percentages) in IAT samples at wave 1 and wave 4 (weighted data).

	Owner-occupied		Social-rented		Private-rented	
IAT	Wave 1	Wave 4	Wave 1	Wave 4	Wave 1	Wave 4
TRAs	2.7	11.0	94.9	81.0	2.4	8.0
LRAs	8.2	6.6	90.7	84.8	1.1	8.7
WSAs	51.1	43.9	45.8	48.3	3.1	7.8
HIAs	44.4	35.9	51.7	55.2	3.8	8.8
PEs	21.1	15.2	77.9	81.3	1.0	3.5

It is notable that the percentages of owner-occupation have dropped in all the IATs except for the TRAs, where there has been an increase. Social renting was the most frequent tenure in all the IATs at both waves, except in the WSAs at wave 1, where there was a small majority of owner-occupied homes. Social renting was highest in the regeneration areas at both waves, although it dropped by -14% in the TRAs (from 95% at wave 1) and by -6% in the LRAs (from 91% at wave 1). There were small increases, of approximately +1 to +4%, in the proportions of social-rented households in the non-regeneration areas. There was a notable increase in the proportion of private renting to a level of 8-9% in all the IATs at wave 4, except for the PEs, where only approximately 4% of homes were in this tenure.

Second, considering the wider neighbourhood, we examine residents' satisfaction with the neighbourhood as a place to live, and their perception of whether it has improved or deteriorated over time. We also compare perceptions of the quality of the environment – its attractiveness and the quality of its amenities – and of the level of incivilities and antisocial behaviours in the area, across the IATs.

2.2. Housing

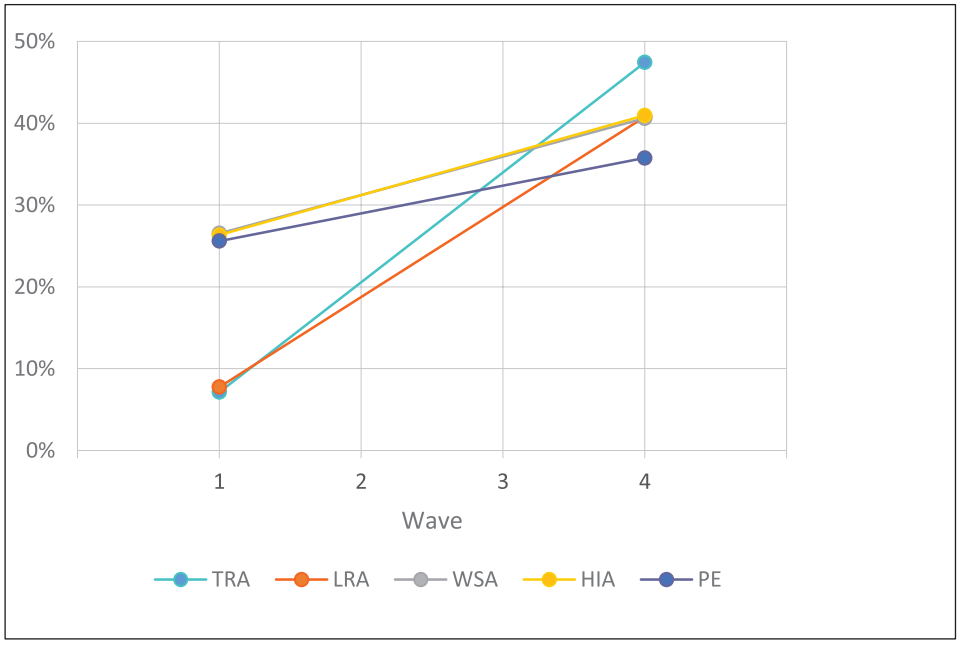
Dwelling satisfaction

Many aspects of housing contribute to the level of satisfaction that people feel about living in their home, including physical and psychosocial aspects of the home and the way their dwelling is managed by their landlord or factor. We asked about many of these separately, but first we wanted to understand how participants felt about their dwelling in general.

Participants were asked: Overall, how satisfied or dissatisfied are you with your current home?

Possible responses were: very satisfied; fairly satisfied; neither satisfied nor dissatisfied; fairly dissatisfied; very dissatisfied; don't know. In our analysis, we examined the change in percentages of those who said they were 'very satisfied'.

Figure 2.1: Overall satisfaction with the home: percentage who said they were 'very satisfied' (n_{wave1}=5,955; n_{wave4}=3,468).



Key findings:

- All IATs showed a significant increase ($p<0.001$) between waves 1 and 4 in the percentage of participants who were very satisfied with their current home.
- The difference in levels of housing satisfaction between regeneration areas and other areas narrowed over time.
- At wave 4, the proportion of participants who were 'very satisfied' with their home ranged from 36% in the PEs to 47% in the TRAs.
- The greatest increases in the prevalence of high levels of dwelling satisfaction occurred in the regeneration areas (TRAs and LRAs), where levels at wave 1 had initially been much lower than for the non-regeneration areas (7-8% versus 26%).
- It seems likely that the increase in overall satisfaction reflects the various specific types of housing improvements undertaken between 2006 and 2015, particularly of the poorer-quality dwellings in the TRAs and LRAs, with the poorest quality dwellings being demolished and some new build housing provided in these areas.

Ratings of the condition of the home

Structural quality and design aspects of the home might be expected to have a direct effect on the quality of experience of living in a particular dwelling. We examine whether these aspects of the home, overall and specifically with respect to its external structure, have changed between 2006 and 2015, according to the occupant's assessments.

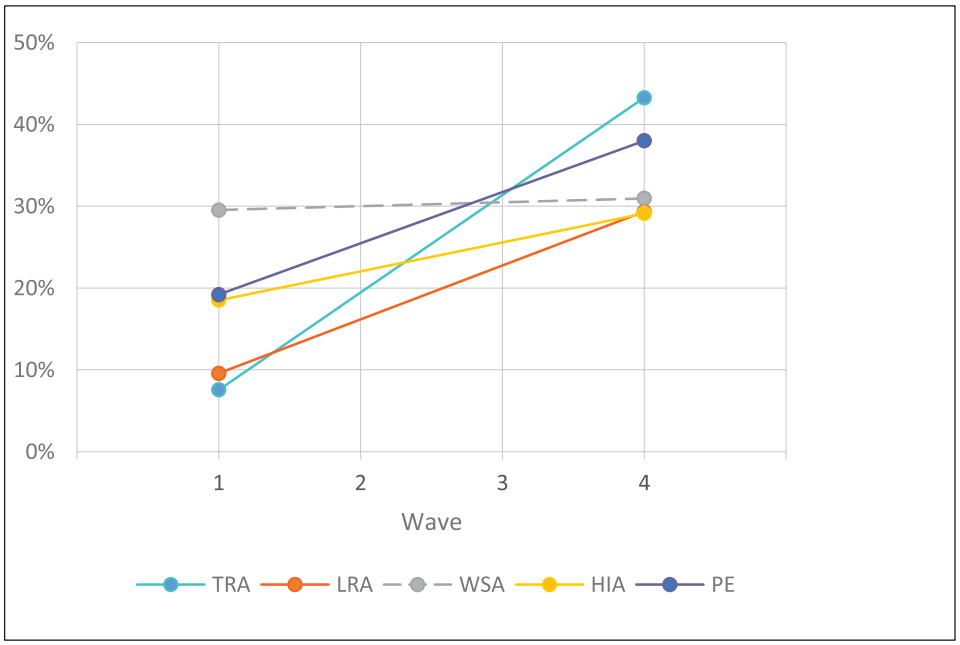
Participants were asked: How would you rate your current home in terms of:

- the overall condition of the home?
- the external appearance?

Possible responses were: very good; fairly good; neither good nor poor; fairly poor; very poor; don't know. In our analysis, we examined the change in percentages of those who said it was 'very good'.

Overall condition of the home

Figure 2.2: Rating of the overall condition of the home: percentage who said it was 'very good' (n_{wave1}=5,957; n_{wave4}=3,469).

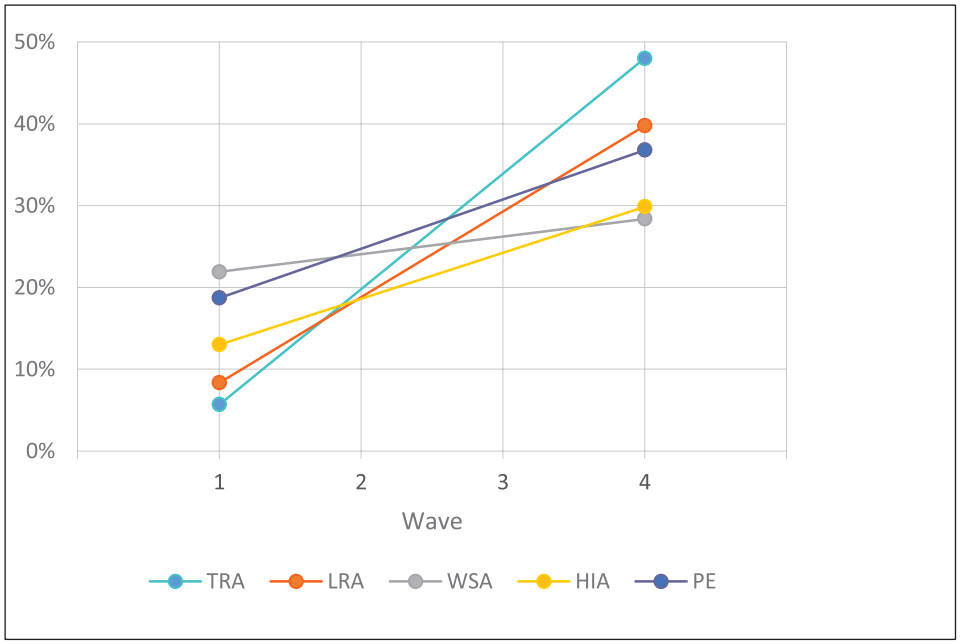


Key findings:

- There was a significant increase ($p<0.001$) in the percentage of people in the TRAs and LRAs, and the HIAs and PEs, who rated the overall condition of their home as 'very good'. The overall rating was unchanged in the WSAs.
- By 2015, the proportion of participants rating the condition of their home as 'very good' ranged from 29% in the HIAs and LRAs to 43% of participants in the TRAs.
- The greatest increases in frequency of 'very good' ratings between 2006 and 2015 occurred in the TRAs and LRAs. Starting from a low baseline of less than 10%, values in these areas reached 43% and 29%, respectively, those of the TRAs exceeding values in the non-regeneration areas by 5-14% in 2015.
- The increase in overall satisfaction with the overall condition of the home probably reflects, above all, the efforts of RSLs between 2006 and 2015, especially in the TRAs and LRAs, to improve the quality of a wide variety of aspects of their housing stock and to remove the poorest quality stock through demolition.

External appearance of the home

Figure 2.3: Rating of the external appearance of the home: percentage who said it was 'very good' (n_{wave1}=4,486; n_{wave4}=2,935).



Key findings:

- There was a significant increase ($p<0.001$) in the percentage of people in all the IATs who rated the external appearance of their home as 'very good'.
- By wave 4, the proportion of participants who considered the external appearance of their home to be 'very good' ranged from 28% in the WSAs to 48% in the TRAs.
- The greatest increases in frequency of 'very good' ratings between 2006 and 2015 occurred in the TRAs and LRAs. Starting from a low baseline of less than 9%, values increased by +42% and +31%, respectively, exceeding the final values of respondents in the Non-Regeneration Areas by 3-20%.
- The increase in positive ratings of the external appearance of the home probably reflects, above all, the efforts of RSLs between 2006 and 2015 to improve their core housing stock together with the provision of new build housing.

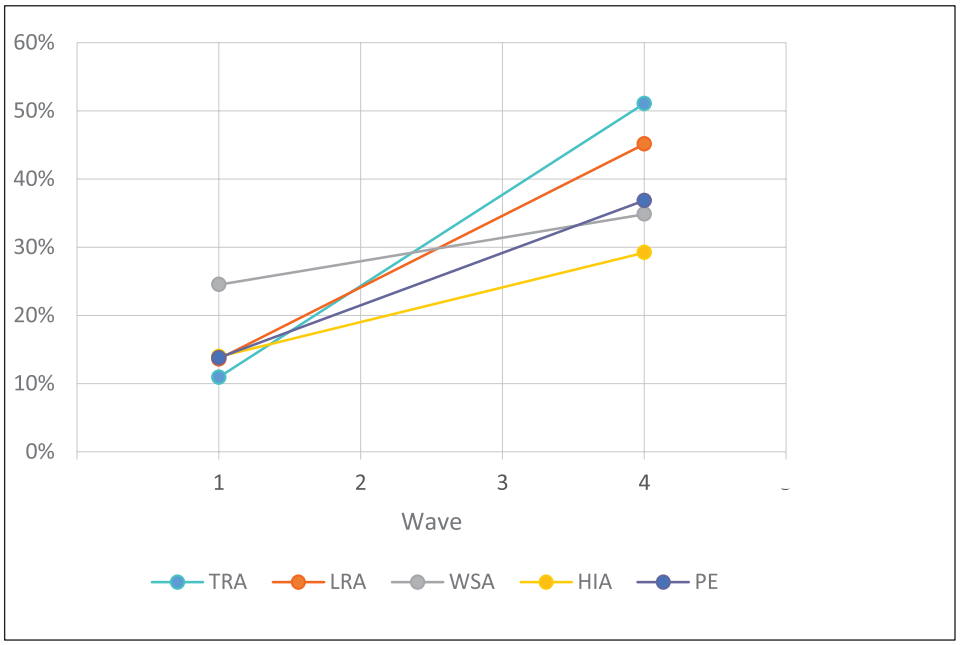
Housing: Feelings of safety at home

Earlier in the study, we found that feelings of safety were strongly associated with respondents' overall level of mental wellbeing[23] and thus it is important to establish what has happened to people's sense of safety at home over time.

Participants were asked: How much do you agree or disagree with the statement: I feel safe in my home?

Possible responses were: strongly agree; agree; neither agree nor disagree; disagree; strongly disagree; don't know. In our analysis, we examined the change in percentages of those who said they 'strongly agree'.

Figure 2.4: Feeling safe in the home: percentage who said they 'strongly agree' (n_{wave1}=5,957; n_{wave4}=3,468).



Key findings:

- There was a significant increase ($p<0.001$) in the percentage of people in all the IATs who felt strongly that they felt safe in their home.
- By wave 4, proportion of participants who felt very safe in their home ranged from 29% in the HIAs to 51% in the TRAs.
- The greatest improvements in the proportion of people feeling safe in their home were noted in the regeneration areas (+40% and +32% increases in the TRAs and LRAs, respectively). Starting from a lower baseline than the three non-regeneration area IATs, the final values for the TRAs and LRAs exceeded those of the HIAs, WSAs and PEs by 8-22%.
- The increase in positive feelings of safety in the home probably reflects, above all, the efforts of RSLs between 2006 and 2015, especially in the TRAs and LRAs, to improve the security of their housing stock, for example by fitting new front doors and windows

[23] Kearns A, Whitley E, Bond L, Tannahill C. The residential psychosocial environment and mental wellbeing in deprived areas. *International Journal of Housing Policy* 2012;12(4):413-438.

under the Secured By Design scheme to new build homes and to core stock as part of the improvements. Improvements in neighbourhood environments (see below) may also contribute to enhanced feelings of safety. At the same time as regeneration, the overall level of crime in the city of Glasgow fell by 39% between 2004/5 and 2014/15[24].

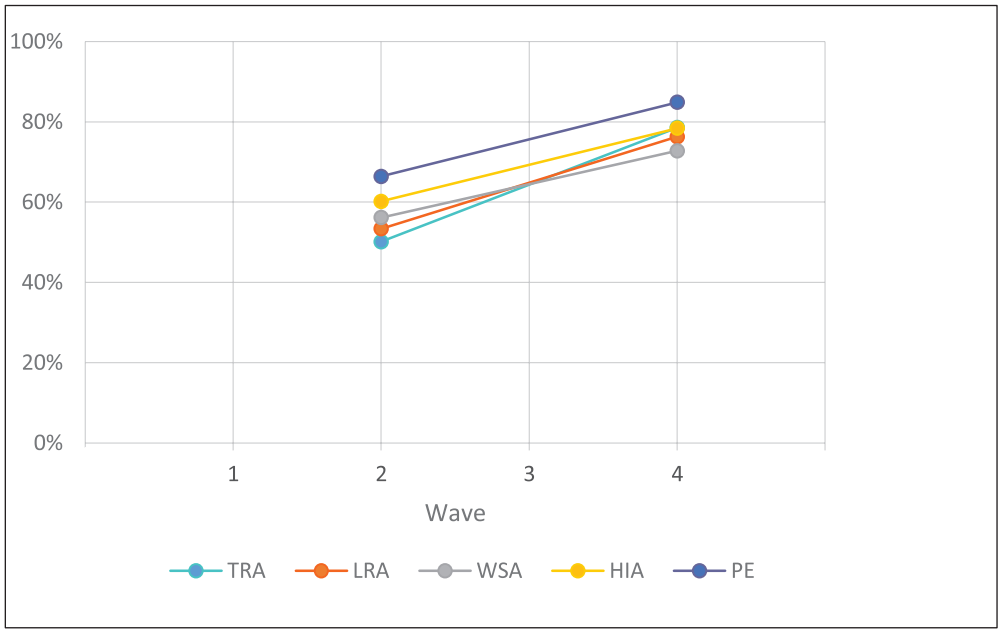
Satisfaction with housing services provided by the landlord or factor

The quality of the housing service offered by registered social landlords and private landlords to residents in the rental sector, and by factors to owner occupiers and those in private-rental properties, may influence residents' satisfaction with the experience of living in their home. In earlier analyses, we had found a strong association between satisfaction with landlord services and the occupants' mental wellbeing[25]. We examined whether residents had noted any improvements in their housing service between 2006 and 2015.

At waves 2 and 4 (but not at wave 1), participants were asked: How satisfied or dissatisfied are you with the overall housing service provided by your landlord or factor?

Possible responses were: very satisfied; fairly satisfied; neither satisfied nor dissatisfied; fairly dissatisfied; very dissatisfied; don't know; not applicable. In our analysis, we examined the change in percentages of those who said they were 'very satisfied' or 'fairly satisfied'.

Figure 2.5: Satisfaction with the overall housing service: percentage who said they were 'very satisfied' or 'fairly satisfied' (n_{wave2}=4,486; n_{wave4}=2,935).



Key findings:

- All IATs showed a significant increase ($p<0.001$) between waves 2 and 4 in the percentage of participants who were satisfied to some extent with their overall housing service.

[24] Understanding Glasgow. *Community safety, Overall crime rate*. http://www.understandingglasgow.com/indicators/community_safety/overall_crime_rate

[25] Bond L, Kearns A, Mason P, Tannahill C, Egan M, Whitley E. Exploring the relationships between housing, neighbourhoods and mental wellbeing for residents of deprived areas. *BMC Public Health* 2012;12:48.

- By wave 4, the proportion of participants who were satisfied with the housing service they received ranged from 73% in the WSAs to 85% in the PEs.
- The greatest increases in the prevalence of levels of satisfaction occurred in the TRAs (+28%) and LRAs (+23%), where the majority of properties are social-rented, and where levels had initially been lower than for the non-regeneration areas (50-53% versus 56-66%), where there is a greater tenure mix.
- Examining the data in greater depth (not illustrated), we found that in the non-regeneration areas, the improvement in satisfaction with housing services was more widespread among owner-occupier than social-renter participants – by a margin of +2% in the HIAs (17.7% versus 15.8%), +5% in the WSAs (15.7% versus 10.2% and +22% in the PEs (36.3% versus 14.3%).
- The difference in the ratings between the regeneration and non-regeneration areas narrowed between wave 1 and wave 4, although the highest rates of landlord/factor satisfaction were found in the peripheral estates at both time points.
- The increase in overall satisfaction with housing services probably reflects, above all, the efforts of RSLs to improve their service provision, and particularly GHA's customer focus in the years after stock transfer.

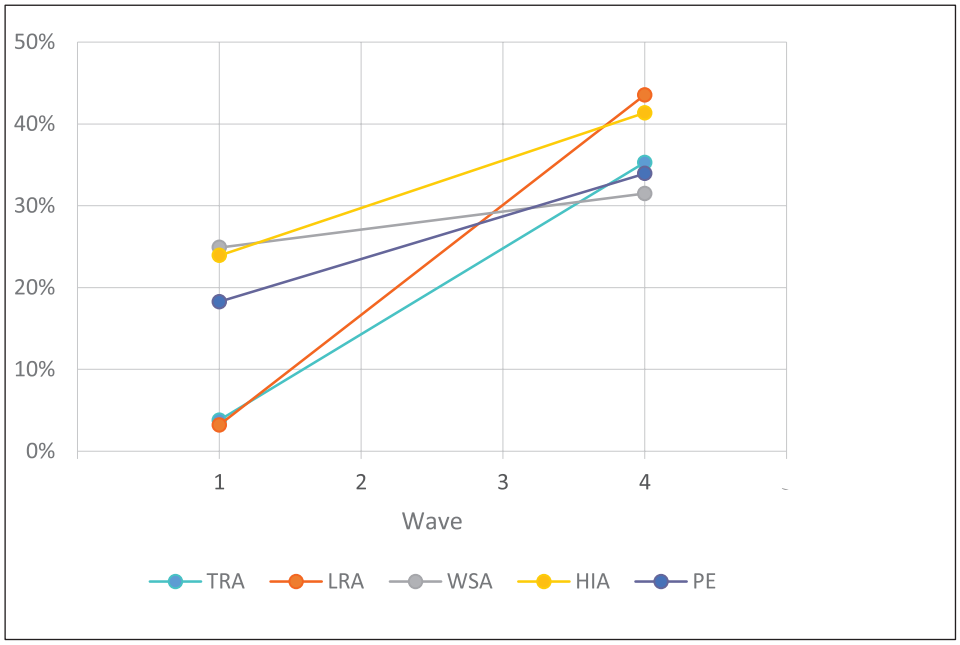
2.3. Neighbourhood

Neighbourhood satisfaction

Participants were asked: How satisfied or dissatisfied are you with this neighbourhood as a place to live?

Possible responses were: very satisfied; fairly satisfied; neither satisfied nor dissatisfied; fairly dissatisfied; very dissatisfied; don't know. In our analysis, we examined the change in percentages of those who said they were 'very satisfied'.

Figure 2.6: Satisfaction with the neighbourhood as a place to live: percentage who said they were 'very satisfied' (n_{wave1}=5,956; n_{wave4}=3,470).



Key findings:

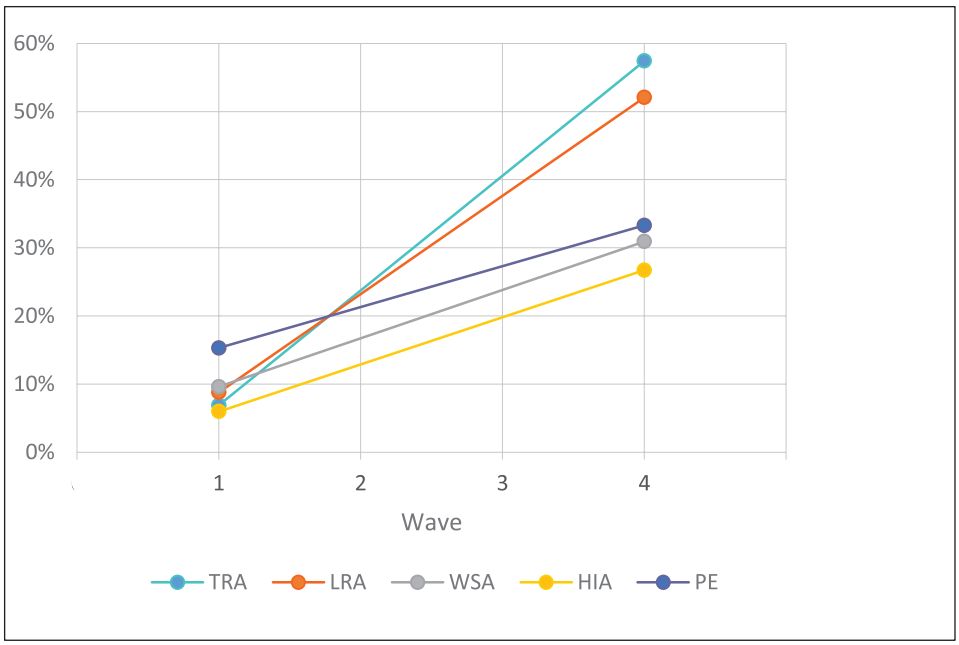
- There was a significant increase ($p<0.001$) in the percentage of people in all the IATs who felt very satisfied with their neighbourhood as a place to live.
- The range in levels of neighbourhood satisfaction between the IATs almost halved between 2006 and 2015. By wave 4, the proportion of participants who were 'very satisfied' with their neighbourhood ranged from 31% in the WSAs to 44% in the LRAs. In fact, the WSAs which had the highest level of neighbourhood satisfaction in the wave 1 survey had the lowest level by wave 4.
- The greatest improvements in the proportion of people feeling 'very satisfied' with their neighbourhood were noted in the regeneration areas (+31% and +40% increases in the TRAs and LRAs, respectively). Starting from a lower baseline (<4%) than the three non-regeneration area IATs, the level of high neighbourhood satisfaction in the LRAs in wave 4, at 43%, was higher than in all the other IATs, by 2-12%, and the proportion 'very satisfied' in the TRAs marginally exceeded those in the WSAs and PEs.
- The increase in positive ratings of neighbourhood satisfaction are most likely a response to improvements made to the local environment, particularly in the regeneration areas. Gains in the TRAs may have been offset to some degree by the fact that the consequences of clearance and demolition in these areas were still in evidence in 2015.

Perceptions of neighbourhood change

Participants were asked: Has this area got better or worse to live in over the last two (wave 1)/four (wave 4) years?

Possible responses were: the area has got better; the area has stayed the same; the area has got worse; don't know. In our analysis, we separately examined the change in percentages of those who thought the area had got better or worse.

Figure 2.7: Perception of neighbourhood change: percentage who thought their area had improved as a place to live (n_{wave1}=5,250; n_{wave4}=2,969).



Key findings:

- There was a significant increase ($p<0.001$) in the percentage of people in all the IATs who felt their neighbourhood had become a better place to live in recent years.
- By wave 4, the proportion of participants who thought their neighbourhood had become a better place to live in the previous four years ranged from 27% in the HIAs to 57% in the TRAs.
- The greatest increases in perceived neighbourhood improvement occurred in the regeneration areas. From low-baseline levels, there were large increases in the TRAs and LRAs in the proportion of participants who thought their neighbourhood had become a better place to live in the previous four years, of +51% and +43%, respectively.
- There were more modest increases, of approximately +20%, in the proportion of residents in the three the non-regeneration area types who noted recent improvements in their neighbourhood as a place to live. It is worth noting that in these areas, only a minority of residents in 2015 considered their area to have improved in recent years.
- These patterns of perceived improvements in the neighbourhood, whereby the biggest changes were seen in the regeneration areas, are consistent with those of the changes in proportions of residents who were satisfied with their neighbourhood between 2006 and 2015.

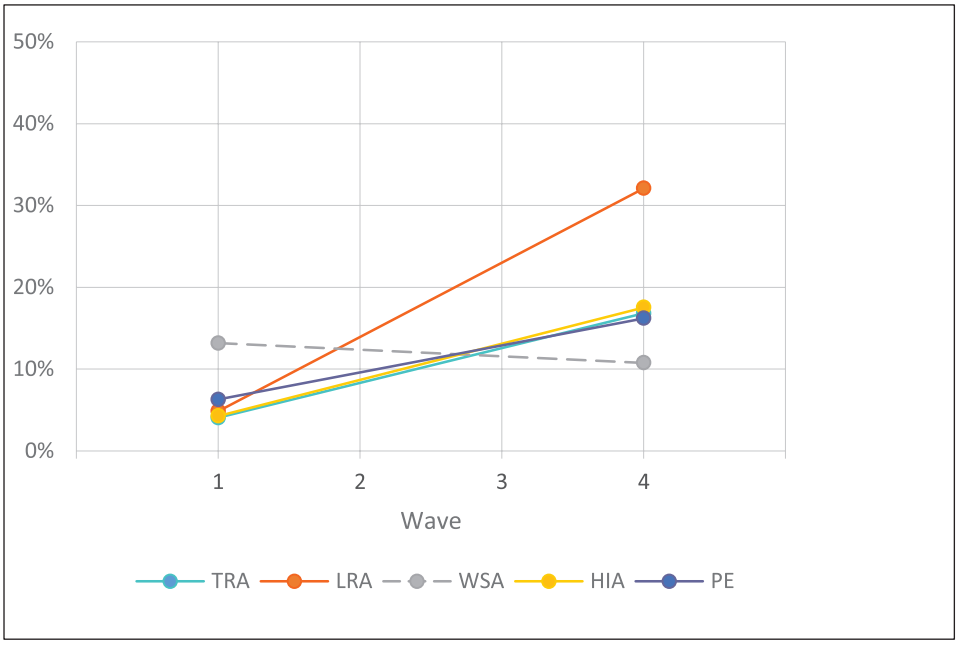
- Additional analysis showed a drop in all IATs in the proportion of residents who thought their area had declined over time. By 2015, in most IATs, less than 10% of participants considered their area to have deteriorated, although this figure was higher at 15% in the TRAs.

Aesthetic quality of the neighbourhood

Participants were asked: How would you rate the quality of your neighbourhood in terms of [it being an] attractive environment?

Possible responses were: very good; fairly good; neither good nor poor; fairly poor; very poor; don't know. In our analysis, we examined the change in percentages of those who said it was 'very good'.

Figure 2.8: Rating of attractiveness of neighbourhood environment: percentage rating it as 'very good' (n_{wave1}=5,958; n_{wave4}=3,469).



Key findings:

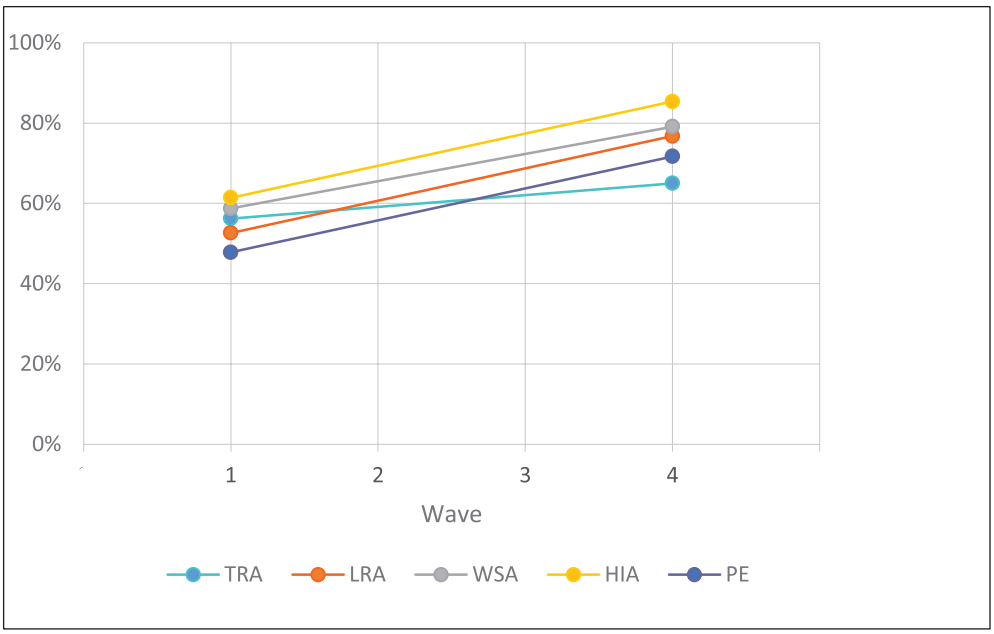
- Significantly more residents in four of the IATS (TRAs, LRAs, HIAs and PEs) rated the attractiveness of their neighbourhood environment as 'very good' in 2015 than in 2006. There was no significant change for the corresponding value in the WSAs.
- By wave 4, the proportion of participants who rated the attractiveness of their neighbourhood as 'very good' ranged from 11% in the WSAs to 32% in the LRAs.
- The greatest increase in positive evaluations between waves 1 and 4 was noted in the LRAs (+27%), more than twice the level of increases in the TRAs, HIAs and PEs.
- The increase in the proportions of residents regarding their neighbourhood as very attractive may partially reflect improvements to the external fabric of buildings, particularly the high-rise flats that predominate in the LRAs and some of the HIAs and were retained rather than demolished. However, the increase in the TRAs may be related to the demolitions having occurred in these areas that were the most aesthetically unappealing at wave 1, and the provision of some new build housing.

Rating of neighbourhood amenities

Participants were asked: How would you rate the quality of the (1) shops, (2) youth and leisure services, and (3) parks and open spaces in and around your local area?

Possible responses were: very good; fairly good; neither good nor poor; fairly poor; very poor; don't know. In our analysis, we examined the change in percentages of those who said it was 'very good' or 'fairly good'.

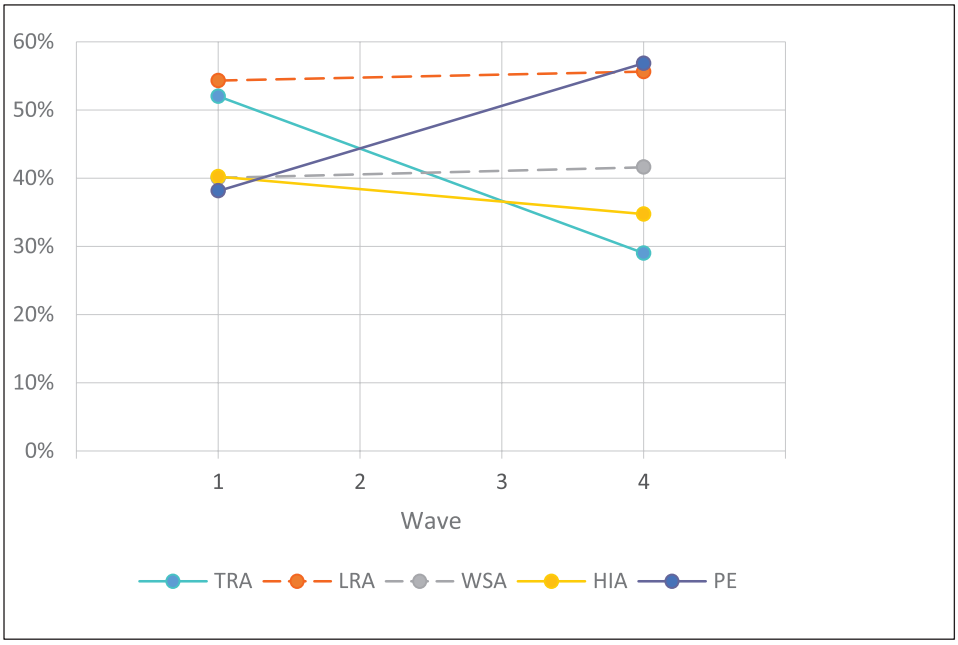
Figure 2.9: Quality of local shops: percentage rating them as 'very good' or 'fairly good' (n_{wave1}=5,956; n_{wave4}=3,457).



Key findings:

- There was a significant increase between waves 1 and 4 (p≤0.004) in the percentage of residents in all five IATs who rated the quality of their local shops as 'fairly' or 'very good'.
- By wave 4, the proportion of participants who rated their local shops as 'fairly' or 'very good' ranged from 65% in the TRAs to 85% in the HIAs.
- The improvement in rating was smallest in the TRAs (+9%), leaving it with the poorest rating. The other four IATs all had similar increases of +20% or so, between waves 1 and 4. The more modest improvement in the TRAs reflects the loss of shops as part of the regeneration process, with plans for replacement retail provision not yet coming to fruition.

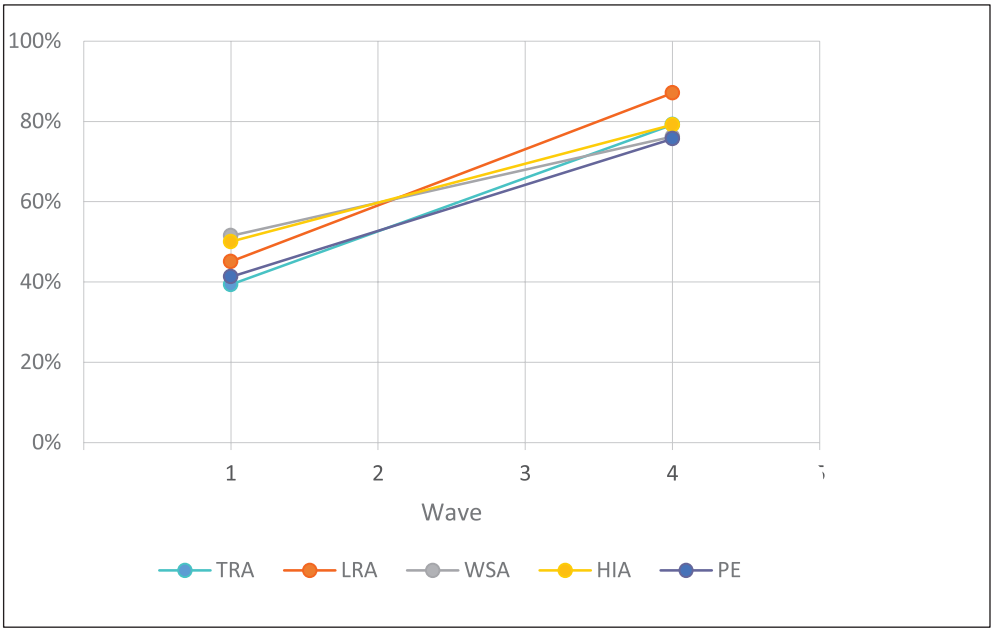
Figure 2.10: Quality of local youth and leisure services: percentage rating them as 'very good' or 'fairly good' (n_{wave1}=5,956; n_{wave4}=3,394).



Key findings:

- There was a mixed pattern of change in the percentage of residents in the five IATs who rated youth and leisure services as 'fairly good' or 'very good'.
- There was a substantial and significant ($p<0.001$) drop of -23% in the TRAs, making youth and leisure services in these areas the most poorly rated among the IATs by wave 4. There was a smaller, yet still significant ($p=0.008$) decrease of -5% in the percentage of people in the HIAs who rated youth and leisure services as 'good' at wave 4.
- Conversely, there was a significant, marked increase of +19% in the proportion of participants offering positive ratings of youth and leisure services in the PEs ($p<0.001$), such that PEs changed from being the least often positively rated in 2006, to being the most often positively rated of the IATs by 2015.
- By wave 4, the proportion of participants who rated local youth and leisure services as 'fairly' or 'very good' ranged from 29% in the TRAs to 57% in the PEs.

Figure 2.11: Quality of local parks and open spaces: percentage rating them as 'very good' or 'fairly good' (n_{wave1}=5,685; n_{wave4}=3,351).



Key findings:

- There was a very large and significant increase ($p<0.001$) in the percentage of people in all the IATs who rated their local green spaces as being of 'fairly' or 'very good' quality.
- By wave 4, the proportion of participants who gave positive ratings of their local parks and open spaces ranged from 76% in the PEs to 82% in the LRAs.
- The greatest increases in the percentages rating their parks and open spaces positively were seen in the regeneration areas (+40% in the TRAs and +42% in the LRAs), such that the proportion of positive ratings was highest in the LRAs by wave 4. The proportions or participants giving positive ratings to parks and open spaces in the non-regeneration areas also increased by between +25 and +34%.

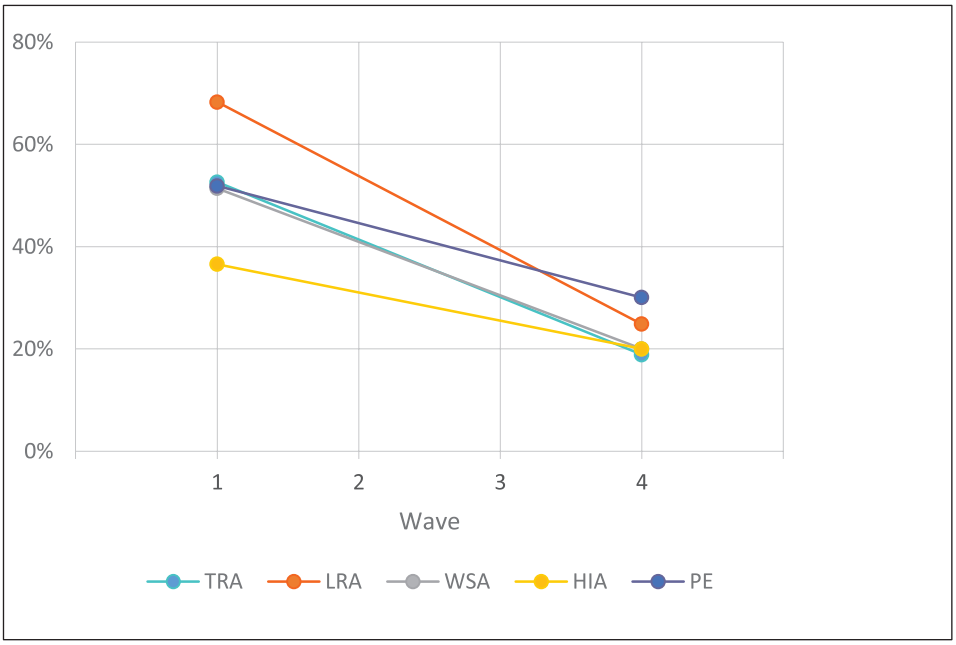
Identification of neighbourhood problems

Participants were asked: Could you tell me whether you think each of these is a serious problem, a slight problem or not a problem in your local neighbourhood?

- Vandalism, graffiti and other deliberate damage to property or vehicles.
- People using or dealing drugs.
- People being drunk or rowdy in public places.

Possible responses were: not a problem; slight problem; serious problem; don't know. In our analysis, we examined the change in percentages of those who said it was a 'slight problem' or a 'serious problem'.

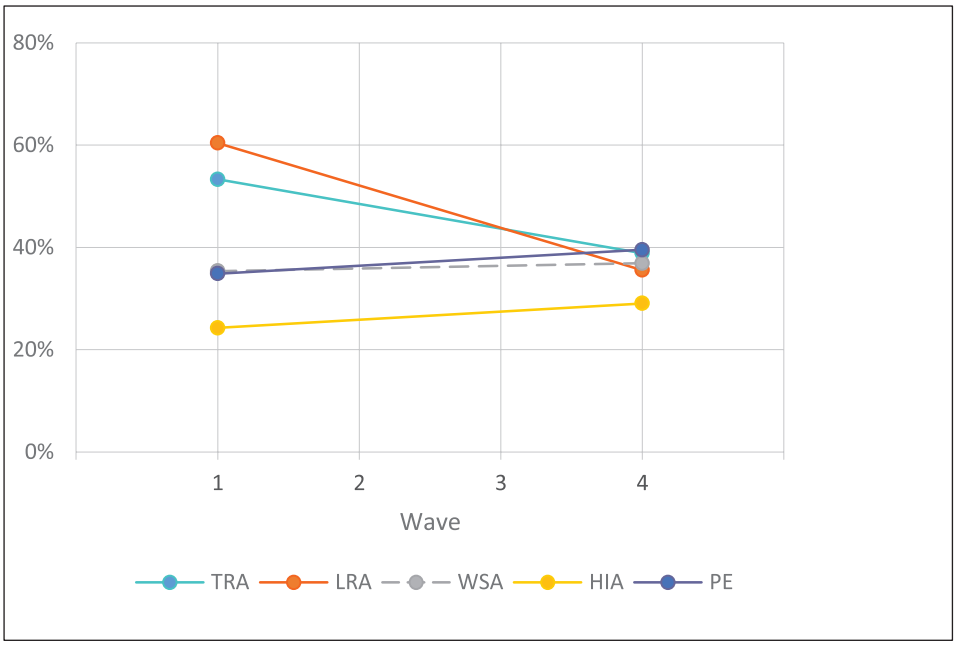
Figure 2.12: Vandalism and graffiti as a neighbourhood problem: percentage who thought this was a 'slight problem' or a 'serious problem' (n_{wave1}=5,878; n_{wave4}=3,389).



Key findings:

- There was a substantial and significant decrease ($p<0.001$) in the percentage of people in all the IATs who identified vandalism and graffiti as being a slight or serious problem in their neighbourhood between 2006 and 2015.
- The difference in levels of perceptions of vandalism and graffiti between the IATs reduced over time. By wave 4, the proportion of participants who considered vandalism and graffiti to be a problem in their neighbourhood ranged from 19% in the TRAs to 30% in the PEs.
- The greatest decrease was in the LRAs (-43%), followed by the TRAs (-34%) and WSAs (-31%). The drop in the PEs and HIAs was less, but still substantial (-22 and -17%, respectively).

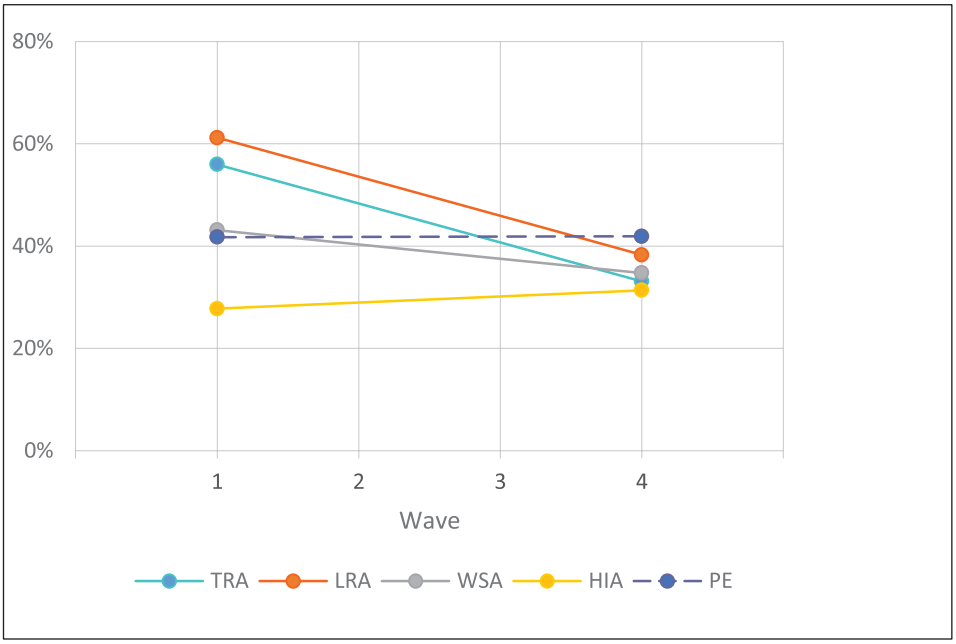
Figure 2.13: Using or dealing drugs as a neighbourhood problem: percentage who thought this was a 'slight problem' or a 'serious problem' (n_{wave1}=5,694; n_{wave4}=3,257).



Key findings:

- Fewer people considered drug dealing and drug use to be a problem in the regeneration areas in 2015 than had done so in 2006. From relatively high baseline levels of 53% and 68% in the TRAs and LRAs, respectively, the percentages dropped significantly by -14% and -25% to below 40% ($p<0.001$).
- Conversely, there were significant +5% increases in the proportion of participants from the HIAs and PEs citing drugs as a local problem ($p<0.05$). There was no significant change in the extent of the perception of this problem among those living in the WSAs.
- By wave 4, approximately 30-40% of participants noted a problem with drug dealing and drug use within each of the IATs. In this sense, the differences between the IATs on this item had become considerably smaller.

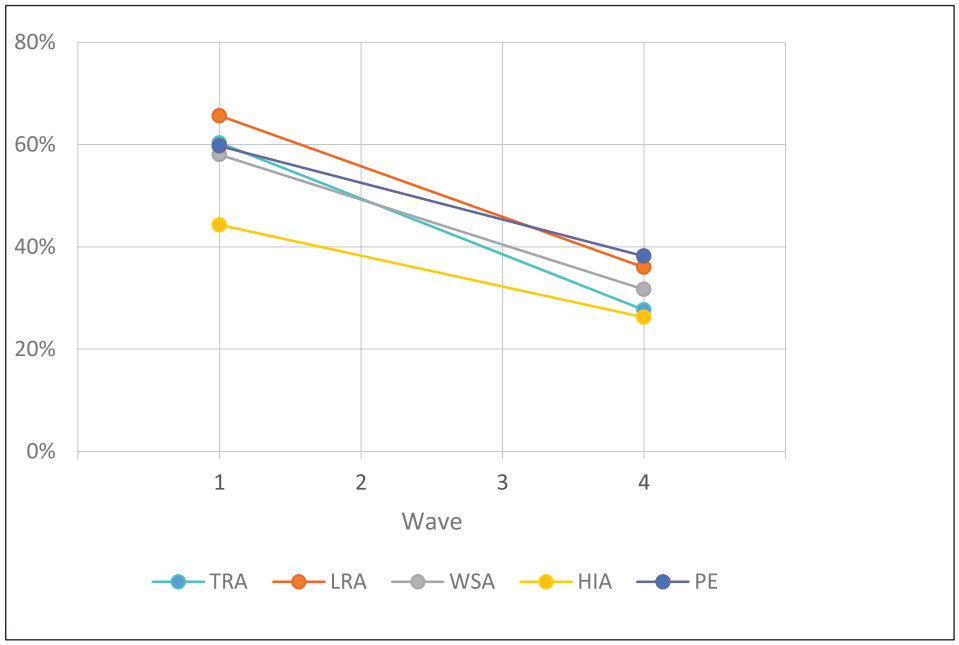
Figure 2.14: Drunken or rowdy behaviour as a neighbourhood problem: percentage who thought this was a 'slight problem' or a 'serious problem' (n_{wave1}=5,745; n_{wave4}=3,374).



Key findings:

- Fewer people considered people being drunk or rowdy in public places to be a problem in the regeneration areas in 2015 than had done so in 2006. From relatively high baseline levels of 53% and 68% in the TRAs and LRAs, respectively, the percentages dropped significantly by -23% to less than 40% ($p<0.001$).
- There was a smaller, but still significant, reduction in the percentage of people recognising drunken behaviour as a problem in the WSAs, from 43% to 35% ($p<0.001$). No significant change in the percentage of participants identifying drunken or rowdy behaviour as a problem was noted in the HIA and PE neighbourhoods.
- The differences between the IATs in the extent to which participants identified drunk and rowdy behaviour as a neighbourhood problem reduced substantially over time. By wave 4, the proportion of participants identifying this problem ranged from 31% in the HIAs to 42% in the PEs.

Figure 2.15: Teenagers hanging around as a neighbourhood problem: percentage who thought this was a 'slight problem' or a 'serious problem' (n_{wave1}=5,780; n_{wave4}=3,392).



Key findings:

- The percentages of residents who considered teenagers hanging around on the street to be a problem in their neighbourhood dropped substantially in all the IATs ($p<0.001$). Once again, the greatest improvements in people's perceptions were noted among residents of the regeneration areas, where decreases of -33% in the TRAs and of -30% in the LRAs were seen. Nevertheless, perceptions of problems with groups of teenagers in the non-regeneration areas also reduced between wave 1 and wave 4 (decreases of between -18% and -26%).
- By wave 4, fewer than 40% of participants in any of the IATs regarded teenagers as being a 'slight' or 'serious' problem.
- The differences between the IATs in the extent to which participants identified teenagers hanging around as a neighbourhood problem reduced substantially over time. By wave 4, the proportion of participants identifying this problem ranged from 26% in the HIAs to 38% in the PEs.

2.4. Summary

A summary of our findings on indicators of the residential environment is given in Table 2.1.

In housing terms, there has been consistent improvement for residents across a number of indicators for all the IATs, covering issues of physical condition, aesthetic quality and safety. On most indicators, by 2015, between 30% and 50% of residents in each IAT gave the most positive response available. Moreover, on variables which encapsulate residents' overview of their housing circumstances – in respect of condition, housing services and satisfaction – inequalities between the IATs have reduced over time. On the issue of feelings of safety at home, however, inequalities between the IATs widened over time, due to lower rates of improvement in the HIAs and WSAs.

As with housing, there were improvements in all IATs in residents' overall assessments of their neighbourhoods, both in terms of satisfaction and recent trajectory as a place to live, with differences between IATs reducing over time in respect of the first of these. In physical terms – attractiveness of the local environment and quality of parks and open space – there was widespread improvement over time, but no significant reduction in inequalities between IATs, although in the case of parks and open spaces ratings were generally high and differences small. Inequalities in residents' ratings of the quality of local amenities did not reduce over time, although there were improvements reported for shops in all IATs. Youth and leisure services performed worst over time, only improving in one IAT and declining in two.

Inequalities between IATs in neighbourhood antisocial behaviour problems have reduced over time. This has occurred at a time when there has been a general trend of a reduction in the number of antisocial behaviour incidents recorded across the city since our first survey, i.e. from 2006/7 onwards[26]. By looking behind the city-wide trends, we can see that on some problems – vandalism and youths hanging around – there have been consistent improvement in all IATs. On other problems – drugs and drunkenness – improvements have occurred in some IATs but not others; in the case of residents' assessment of drugs, the problem has become slightly worse over time in two of the IATs.

In summary, all the IATs have improved over time on the vast majority of environmental indicators. The most consistent improvement was seen in the regeneration areas (TRAs and LRAs). The lowest degree of improvement was seen in the areas adjacent to regeneration areas (WSAs) where four of the indicators showed no significant improvement over time.

[26] Understanding Glasgow. *Community safety, Antisocial behaviour, Trends*. http://www.understandingglasgow.com/indicators/community_safety/anti-social_behaviour/trends

Table 2.1. Summary of significant positive and negative changes in environmental factors between wave 1 (or wave 2) and wave 4.

	Intervention Area Type					Reduced
Environmental Factor	TRAs	LRAs	WSAs	HIAs	PEs	inequality
Housing						
Overall satisfaction with the home	+	+	+	+	+	✓
Satisfaction with housing service	+	+	+	+	+	✓
Overall condition of the home	+	+		+	+	✓
External condition of the home	+	+	+	+	+	
Feeling safe within the home	+	+	+	+	+	X
Neighbourhood						
Satisfaction with neighbourhood as a place to live	+	+	+	+	+	✓
Area has become a better place to live	+	+	+	+	+	X
Attractive environment	+	+		+	+	X
Quality of local services						
Shops	+	+	+	+	+	X
Youth and leisure services	–			–	+	X
Parks & open spaces	+	+	+	+	+	
Neighbourhood problems						
Vandalism, graffiti, deliberate damage	+	+	+	+	+	✓
Drug-dealing and drug use	+	+		–	–	✓
Drunken or rowdy behaviour in public places	+	+	+			✓
Teenageers hanging around on the street	+	+	+	+	+	✓

+, increase in positive or reduction in negative outcome; –, reduction in positive or increase in negative outcome. ✓ and X indicate reduced or increased inequality, respectively.

3
Social factors

3.1. Introduction

The social pathway to health and wellbeing is acknowledged as important in theory, and yet social regeneration is often identified as lagging behind physical regeneration in holistic programmes[27]. Previously within GoWell we have remarked upon the relatively slow progress on social regeneration[28] and argued for the development of community resources to support health outcomes[29].

This chapter considers two aspects of residents' social environments. First, we examine trends in residents' psychological sense of community, including both their feelings of belonging or inclusion in their community and their degree of trust and reliance on other people who live around them. Second, we look at trends in the reported frequency of residents' social contacts and levels of social support.

[27] See: Ginsburga N. Putting the social into urban regeneration policy. *Local Economy* 1999;14(1):55-71; Crawford F. *GoWell Briefing Paper 2: Public Health, Housing and Regeneration: what have we learned from history?* Glasgow: GoWell; 2008.

[28] GoWell. *Progress for People and Places: Monitoring Change in Glasgow's Communities. Evidence from the GoWell Surveys 2006 and 2008*. Glasgow: GoWell; 2010.

[29] Egan M, Tannahill C, Bond L, Kearns A, Mason P. *The Links Between Regeneration and Health: A Synthesis of GoWell Research Findings*. Glasgow: GoWell; 2013.

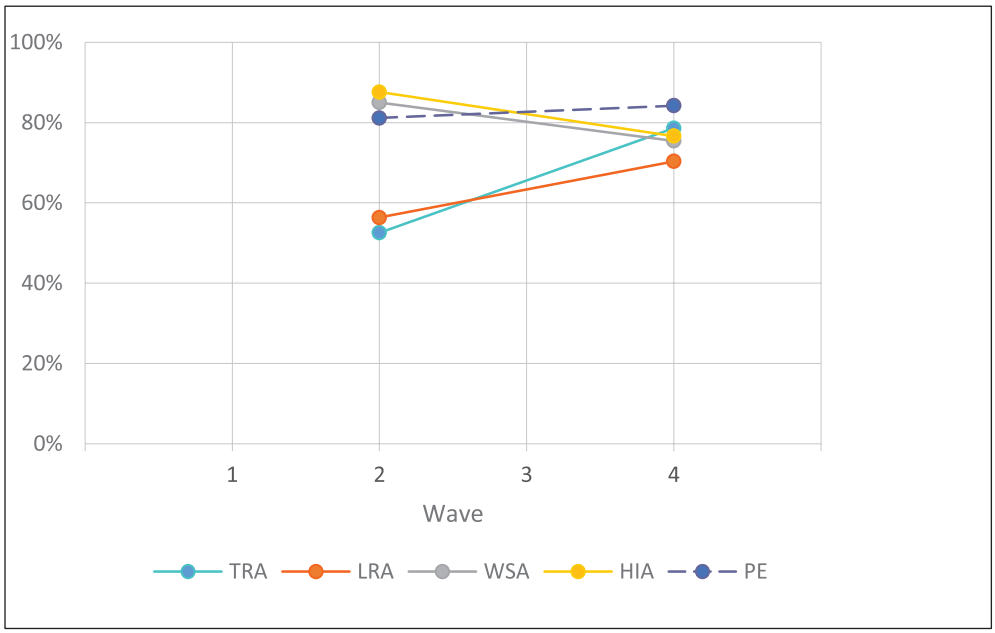
3.2. Sense of community and cohesion

Feeling part of the community

At waves 2 and 4 (but not at wave 1), participants were asked: To what extent does the following apply to you: I feel part of the community?

Possible responses were: a great deal; a fair amount; not very much; not at all. In our analysis, we examined the change in percentages of those who answered 'a great deal' or 'a fair amount'.

Figure 3.1: Extent of feeling part of the community: percentage who said 'a great deal' or 'a fair amount' (n_{wave2}=4,516; n_{wave4}=3,414).



Key findings:

- The percentage of residents in the regeneration areas who felt part of their community increased substantially, by +26% in the TRAs and +14% in the LRAs (p<0.001), between wave 2 and wave 4.
- By contrast, from a higher baseline than the regeneration areas, the percentages in two of the non-regeneration areas decreased, by -10% in the WSAs and -11% in the HIAs (p<0.001). There was no significant change in the PEs.
- By wave 4, the proportion of participants who felt part of their community ranged from 70% in the LRAs to 84% in the PEs, the gap between regeneration and non-regeneration areas having narrowed considerably.

Informal control and honesty

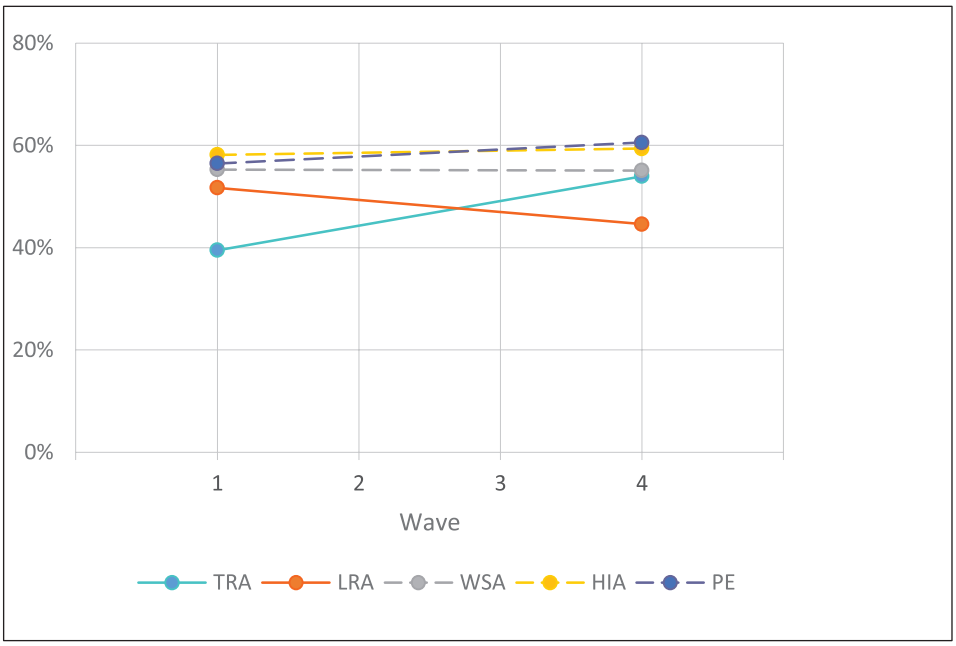
Participants were asked: To what extent do you agree or disagree with the statements:

'It is likely that someone would intervene if a group of youths were harassing someone in the local area'?

'Someone who lost a purse of wallet around here would be likely to have it returned without anything missing'?

Possible responses were: strongly agree; agree; neither agree nor disagree; disagree; strongly disagree; don't know. In our analysis, we examined the change in percentages of those who said they 'strongly agree' or 'agree'.

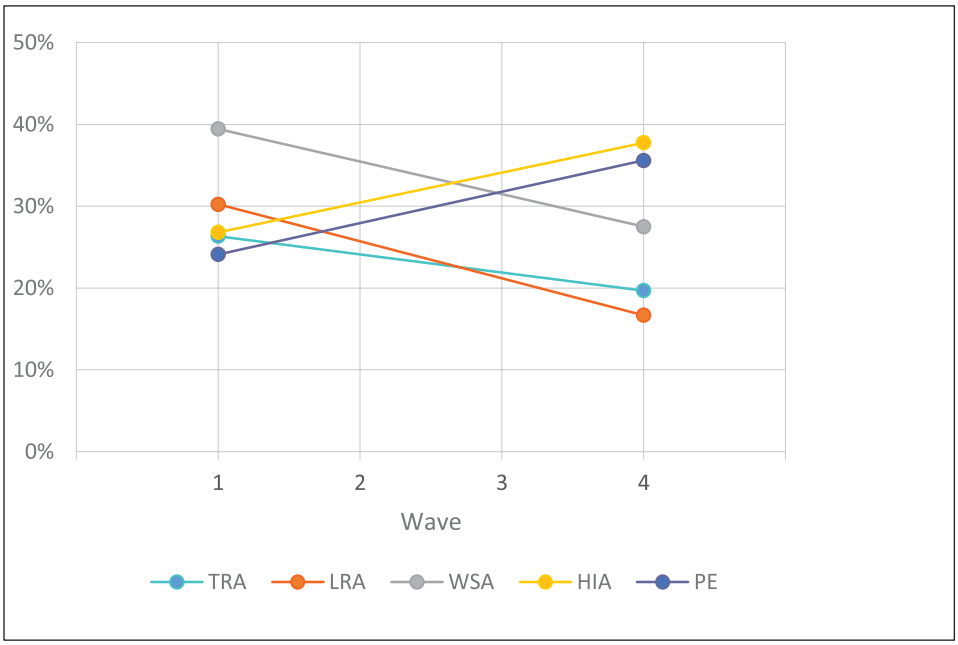
Figure 3.2: Informal control: percentage who said they 'strongly agree' or 'agree' that someone would intervene if youths were harassing someone in the local area (n_{wave1}=5,957; n_{wave4}=3,456).



Key findings:

- Between waves 1 and 4, the percentage of people in the TRAs who believed that someone would intervene in a case of local harassment by youths increased by +14% ($p<0.001$), while that in the LRAs declined by -7% ($p=0.012$).
- There was no significant change in the percentage of residents in the three types of non-regeneration area who believed that informal control would operate in their neighbourhood, but these values were higher than those in the regeneration areas throughout the 2006-2015 period.
- By wave 4, the proportion of participants who had a positive view of informal control in their neighbourhood ranged from 45% in the LRAs to 61% in the PEs.

Figure 3.3: Honesty: percentage who said they 'strongly agree' or 'agree' that a lost wallet or purse would be returned without anything missing (n_{wave1}=5,957; n_{wave4}=3,452).



Key findings:

- The proportion of people in the regeneration areas who believed in the honesty of the people in their neighbourhood declined significantly between wave 1 and wave 4. The decrease in the LRAs (-14%; p<0.001) was larger than that in the TRAs (-7%; p<0.013).
- The pattern of change in the non-regeneration areas was mixed. The HIAs and PEs experienced similar significant 11% increases (+11%; p<0.001) in the proportion of people who thought a lost wallet would be returned intact. However, the percentage in the WSAs dropped, from the highest baseline of 39% in 2006, by -12% (p<0.001).
- By wave 4, the proportion of participants who had a positive opinion about the honesty of the people in their neighbourhood ranged from 17% in the LRAs to 38% in the HIAs.

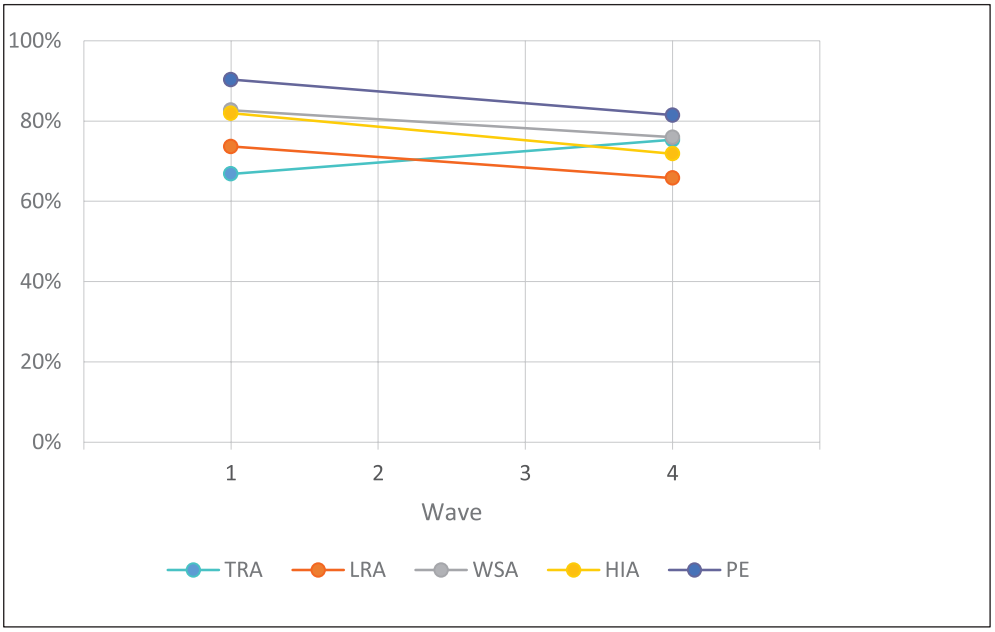
3.3. Social contact

Participants were asked two questions: How often do you do any of the following (but not with people you live with):

- Speak to neighbours?
- Meet up with friends?

Possible responses were: most days; once a week or more; once or twice a month; less often than once a month; never; don't know. In our analysis, we examined the change in percentages of those who said they had these types of social contact at least once a week.

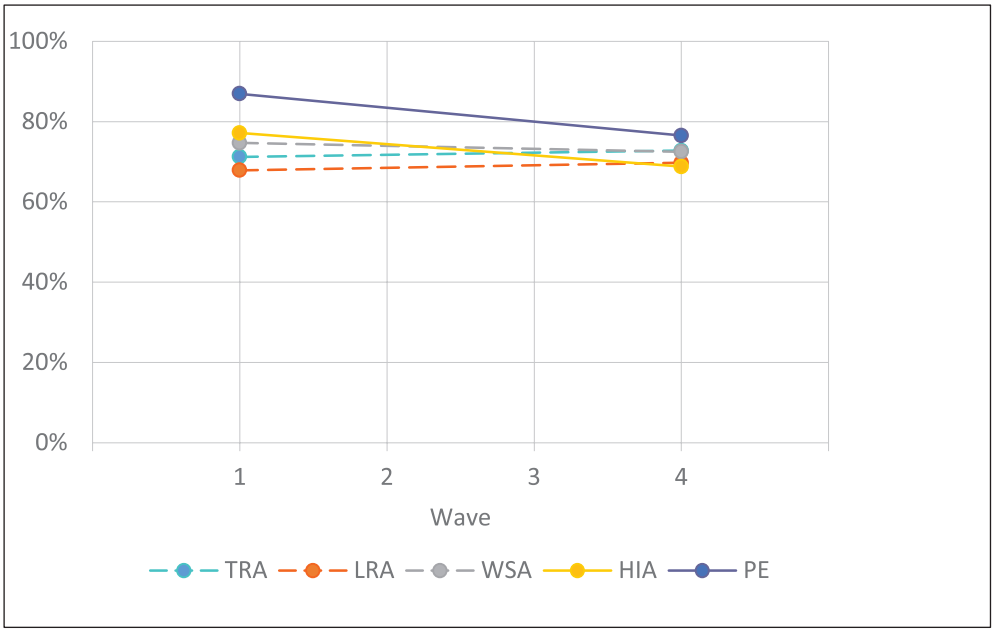
Figure 3.4: Frequency of social contact: percentage who spoke to neighbours at least once a week (n_{wave1}=5,794; n_{wave4}=3,449).



Key findings:

- The percentage of participants who spoke to their neighbours at least once a week declined significantly by between -8% and -10% between wave 1 and wave 4 in four of the IATs ($p \leq 0.002$). The exception was the TRAs, in which the proportion increased by +8% ($p=0.003$).
- With the great majority of residents in each IAT having weekly contact with their neighbours at wave 1, even with the noted reduction, at wave 4 between 66% and 82% of participants in the five IATs spoke to their neighbours at least weekly.

Figure 3.5: Frequency of social contact: percentage who met up with friends at least once a week (n_{wave1}=5,875; n_{wave4}=3,454).



Key findings:

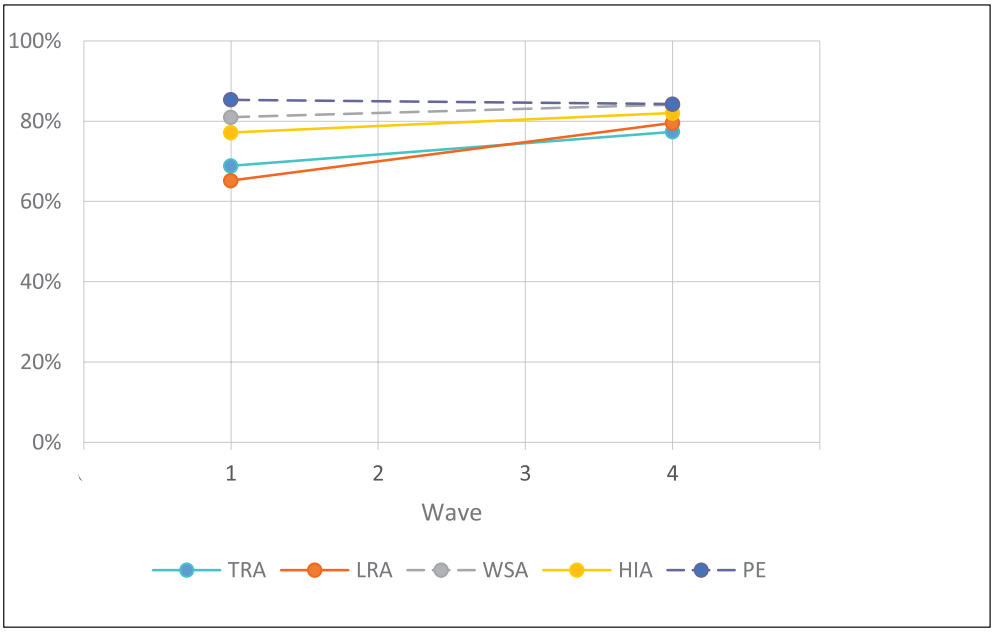
- Between wave 1 and wave 4, there was a significant reduction of -8% and -10%, respectively, in the percentage of HIA and PE residents who met their friends at least once a week ($p<0.001$). There were no significant changes in frequency of social contact with friends in the regeneration areas or in the WSAs.
- With the great majority of residents in each IAT meeting their friends at least weekly at wave 1, even with the noted reduction, at wave 4 69-77% of residents of the five IATs still maintained that same frequency of contact.
- Due in particular to the lower proportion of PE participants who met their friends at wave 4, the range of levels of frequent social contact with friends across the IATs narrowed over the 2006-2015 period.

3.4 Social support

Participants were asked: Thinking about your relatives, friends and neighbours, not counting those you live with, can you tell me around how many people could you ask for help to give you advice and support in a crisis?

Possible responses were: none; one or two; more than two; would not ask; don't know. In our analysis, we examined the change in percentages of those who said they could rely on at least one person compared with those who had no one ('don't know' responses were discarded).

Figure 3.6: Availability of social support: percentage who could ask at least one person to give them advice and support in a crisis (n_{wave1}=5,705; n_{wave4}=3,441).



Key findings:

- There were significant increases between wave 1 and wave 4 in the percentages of people in the regeneration areas who could rely on at least one person for advice and support in a crisis: increases of +14% and +8%, respectively, in the LRAs and TRAs ($p \leq 0.003$).
- From a higher baseline, the percentage of people with available social support in the HIAs also increased by wave 4, although by only +5% ($p < 0.005$). There was no significant change in the extent of social support among the residents of the WSAs and the PEs.
- Although the majority of people in all the IATs at wave 1 felt they had at least one person on whom they could rely in a crisis (65-85%), by wave 4 this majority was even higher (≥77%).
- In particular, due to the increased extent of social support among the people in the LRAs the levels of social support in the different IATs were more similar at wave 4 than at wave 1.

3.5. Summary

A summary of our findings on indicators of the social environment is given in Table 3.1.

The findings on changes in social factors over time are more mixed than was the case for environmental factors. While inequalities in social factors between the IATs narrowed over time for four of the five indicators, in three cases this was partly or wholly because the indicator had declined in some of the IATs. Only in the case of emotional social support were inequalities reduced solely as a result of improvements in the indicator in some of the IATs.

Many of the social indicators were at a reasonably high level by wave 4, with around seven out of ten residents in all the IATs reporting positively on the items. The exceptions were the two indicators of reliance and trust: at wave 4 typically 50-60% of residents in each IAT had expectations of local informal social control and typically 20-40% of residents in each IAT had expectations of the honesty of their neighbours.

The most consistent performance over time was in the TRAs, where four of the five indicators improved over time. Unlike for the environmental factors, here we see a divergence between the TRAs and LRAs, with only two of the five indicators improving over time in the latter, while three declined. The WSAs were the only IAT where none of the social indicators improved over time, and in fact, three of the indicators worsened.

Table 3.1. Summary of significant positive and negative changes in social factors between wave 1 (or wave 2) and wave 4.

	Intervention Area Type					Reduced
Social Factor	TRAs	LRAs	WSAs	HIAs	PEs	inequality
Sense of community and cohesion						
Feeling part of the community *	+	+	–	–		✓
Informal control (youth harassment)	+	–				
Honesty (lost wallet returned)	–	–	–	+	+	X
Social contact and support						
Speaking to neighbours	+	–	–	–	–	✓
Meeting friends				–	–	✓
Advice and support in a crisis	+	+		+		✓

+, increase in positive or reduction in negative outcome; –, reduction in positive or increase in negative outcome. ✓ and X indicate reduced or increased inequality, respectively. * indicates comparison between wave 2 and wave 4.

4 Psychosocial factors

4.1. Introduction

People's housing and neighbourhoods are important not only for the space, comfort and amenity they provide, but also because they can affect how people feel about themselves, particularly in relative terms, both in relation to their own past and intended future and in relation to other people in society. We have previously shown how people's interpretation of their housing and neighbourhood situation comprises a residential psychosocial environment that is associated with their overall mental wellbeing[30].

In this chapter we consider changes over time in indicators relating to three aspects of the residential psychosocial environment. First, indicators of status, including the sense of personal progress residents derive from their homes and neighbourhoods, and their assessment of the relative desirability of their homes. Second, also related to status, residents' perceptions of the reputation of their area, both among people locally and elsewhere. Third, indicators of residents' sense of their own power and influence, in respect of housing, neighbourhoods and public services.

[30] Kearns A, Whitley E, Bond L, Tannahill C. The residential psychosocial environment and mental wellbeing in deprived areas. *International Journal of Housing Policy* 2012;12(4):413-438.

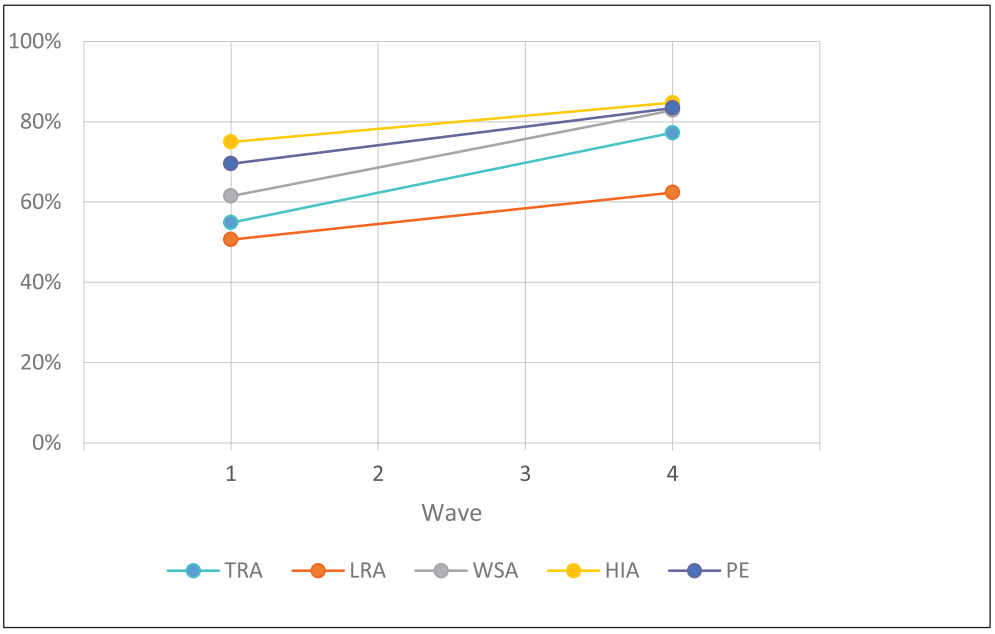
4.2. Status

Participants were asked three questions: How much do you agree or disagree with the statements:

- My home makes me feel like I'm doing well in my life (waves 1-4)
- Most people would like a home like mine (waves 2-4)
- Living in this neighbourhood helps makes me feel like I'm doing well in my life (waves 1-4).

Possible responses were: strongly agree; agree; neither agree nor disagree; disagree; strongly disagree; don't know. In our analysis, we examined the change in percentages of those who said they 'strongly agree' or 'agree'.

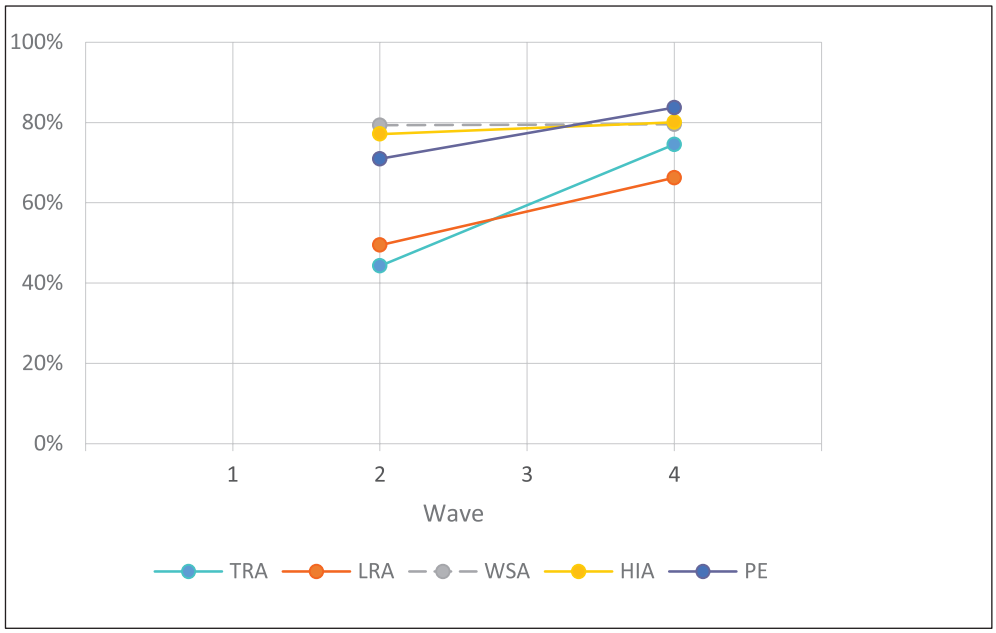
Figure 4.1: Home leads to feelings of progress in life: percentage who said they 'strongly agree' or 'agree' (n_{wave1}=5,865; n_{wave4}=3,443).



Key findings:

- There were significant increases between wave 1 and wave 4 in the percentages of people in all the IATs whose home made them feel they were making progress in their life ($p<0.001$).
- The greatest increases occurred among the residents of the TRAs (+22%) and WSAs (+21%), while residents of the LRAs, HIAs and PEs also reported substantial increases (of +10 to +14%).
- By wave 4, the proportion of participants who said they experienced this psychosocial benefit of their home ranged from 62% in the LRAs to 85% in the PEs. Residents of the regeneration areas had lower values on this indicator at wave 4 than the other IATs.

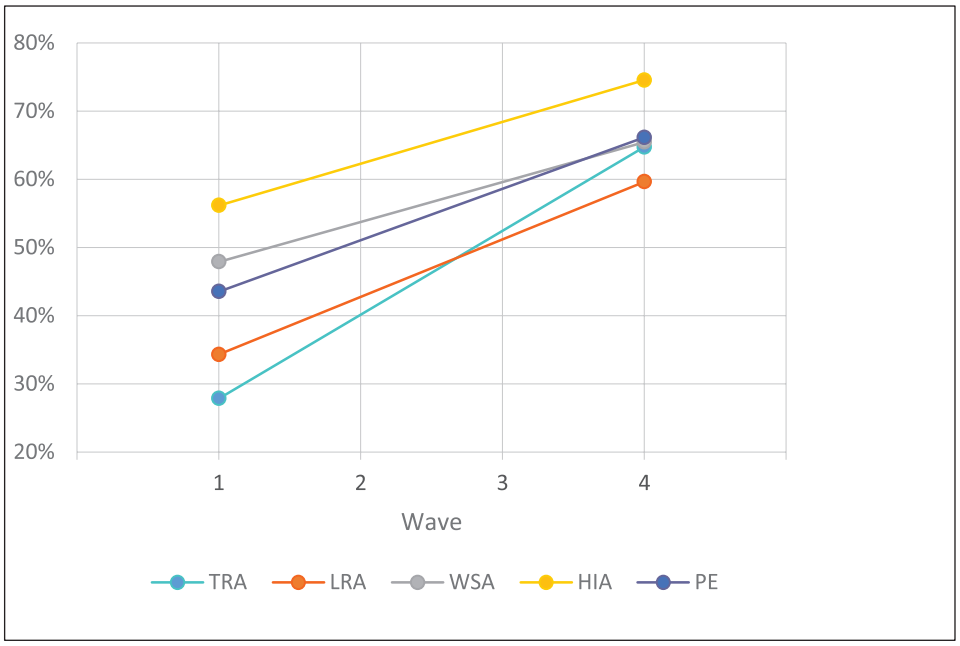
Figure 4.2: Desirability of the home: percentage who said they 'strongly agree' or 'agree' (n_{wave2}=4,167; n_{wave4}=3,302).



Key findings:

- There were significant and substantial increases between wave 2 and wave 4 in the percentages of people in the regeneration areas who thought that other people would like a home like theirs ($p<0.001$). The most dramatic increase, from the lowest baseline value, was in the TRAs (+30%), but the increase in the LRAs was also substantial (+17%).
- With respect to the non-regeneration areas, more participants in the PEs (+13%) considered their homes to be desirable to other people at wave 4 than at wave 1 ($p<0.001$). There was no significant change in either the WSAs or HIAs.
- By wave 4, the proportion of participants who IATs said they experienced this psychosocial benefit of their home ranged from 66% in the LRAs to 84% in the PEs. Residents of the regeneration areas had slightly lower values on this indicator at wave 4 than residents in the other IATs.

Figure 4.3: Neighbourhood leads to feelings of progress in life: percentage who said they 'strongly agree' or 'agree' (n_{wave1}=5,955; n_{wave4}=3,465).



Key findings:

- There were significant and substantial increases between wave 1 and wave 4 in the percentages of people in all the IATS who considered that living in their neighbourhood made them feel that they were doing well in their life ($p<0.001$). The most dramatic increase, from the lowest baseline value, was in the TRAs (+37%), but the increases among the residents of the LRAs were also substantial (+25%).
- In the non-regeneration areas, increases in the percentages of residents of the three IATs who reported experiencing progress in life through living in their neighbourhood (from +18% to +23%; $p<0.001$) were less marked than in the regeneration areas but still significant.
- By wave 4, a majority of participants (from 60% to 75%) in the five IATs said they experienced this psychosocial benefit from their neighbourhood.
- Although the range of percentages for the five IATs was much narrower at wave 4 than at wave 1, the values for the regeneration areas were still lower than those of the non-regeneration areas.

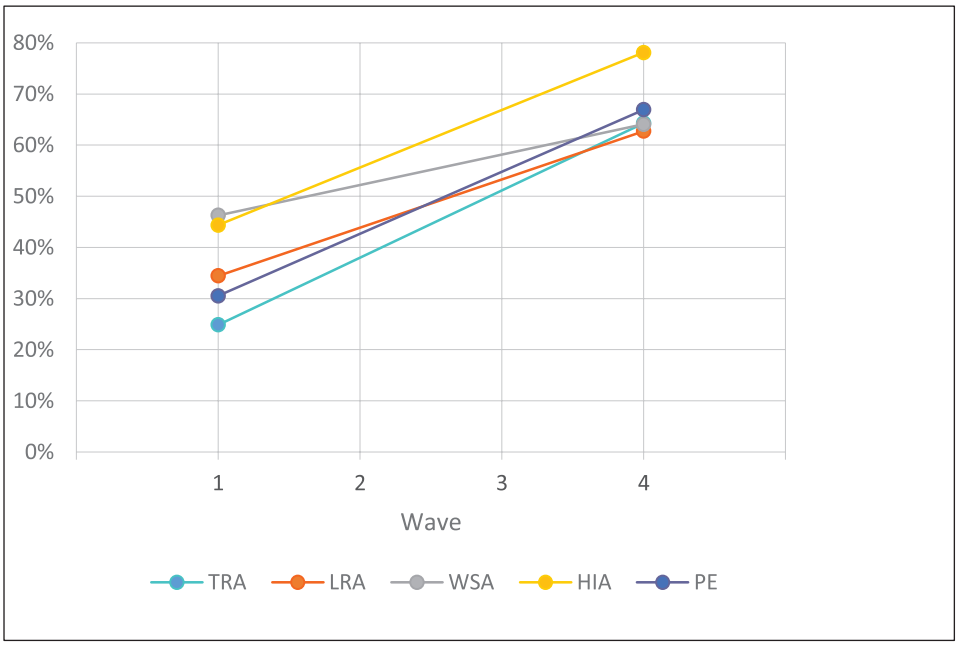
4.3 Neighbourhood reputation

Participants were asked two questions about the reputation of their neighbourhood: How much do you agree or disagree with the statements:

- People who live in this neighbourhood think highly of it
- Many people in Glasgow think this neighbourhood has a bad reputation

Possible responses were: strongly agree; agree; neither agree nor disagree; disagree; strongly disagree; don't know. In our analysis, we examined the change in percentages of those who said they 'strongly agree' or 'agree'.

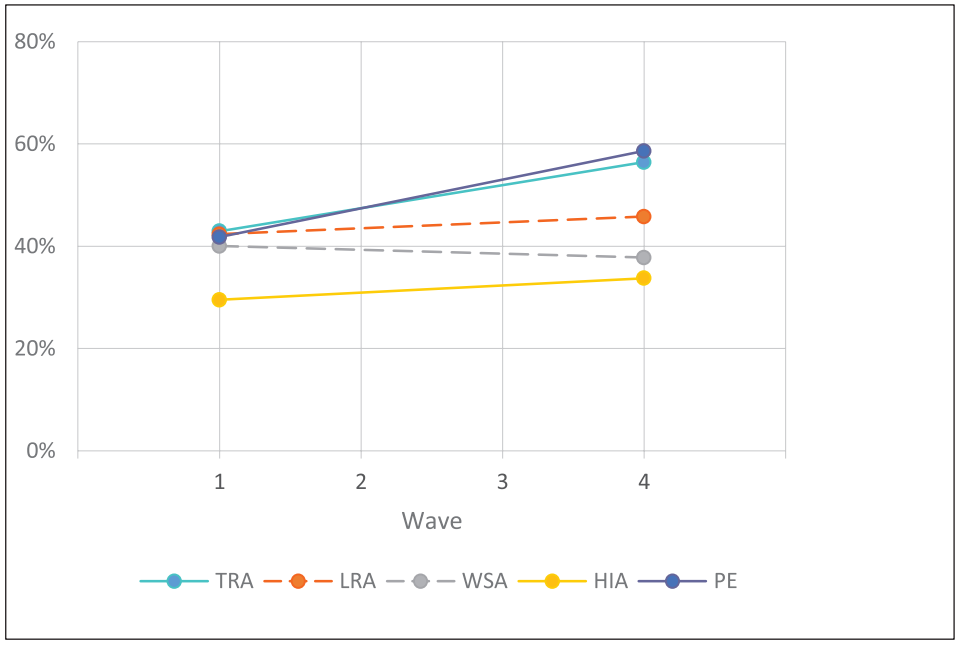
Figure 4.4: Positive internal reputation of neighbourhood: percentage who said they 'strongly agree' or 'agree' (n_{wave1}=5,957; n_{wave4}=3,459).



Key findings:

- There were significant and very substantial increases between wave 1 and wave 4 in the percentages of people in all the IATs who considered that people living in their neighbourhood thought highly of it ($p<0.001$). The most dramatic increase, from the lowest baseline value, was in the TRAs (+39%), but the increases among the residents of the LRAs were also substantial (+28%).
- Increases in the HIAs and PEs were also very substantial (+34 and +36%, respectively), while the increase of +18% among residents of the WSAs was the lowest of the five IATs.
- From baseline percentages indicating that a minority of participants in all the IATs had a positive perception of the internal reputation of their neighbourhood, by wave 4 this had become a majority opinion in all the IATs (≥63%).

Figure 4.5: Negative external reputation of neighbourhood: percentage who said they 'strongly agree' or 'agree' (n_{wave1}=5,956; n_{wave4}=3,463).



Key findings:

- The percentage of residents in the TRAs, HIAs and PEs who believed that their neighbourhood had a bad reputation among the people of Glasgow increased significantly ($p \leq 0.032$) between wave 1 and wave 4 by +4% to +17%. There was no significant change in the prevalence of the belief that the LRAs and WSAs had a poor external reputation.
- By wave 4, a majority of participants in the TRAs and the PEs considered their neighbourhood to have a bad reputation among other Glaswegians. A minority of participants in the LRAs, WSAs and HIAs were of this opinion. The lowest perception of a negative external reputation was found in the HIAs, where around a third of participants thought this to be the case.

4.4. Empowerment

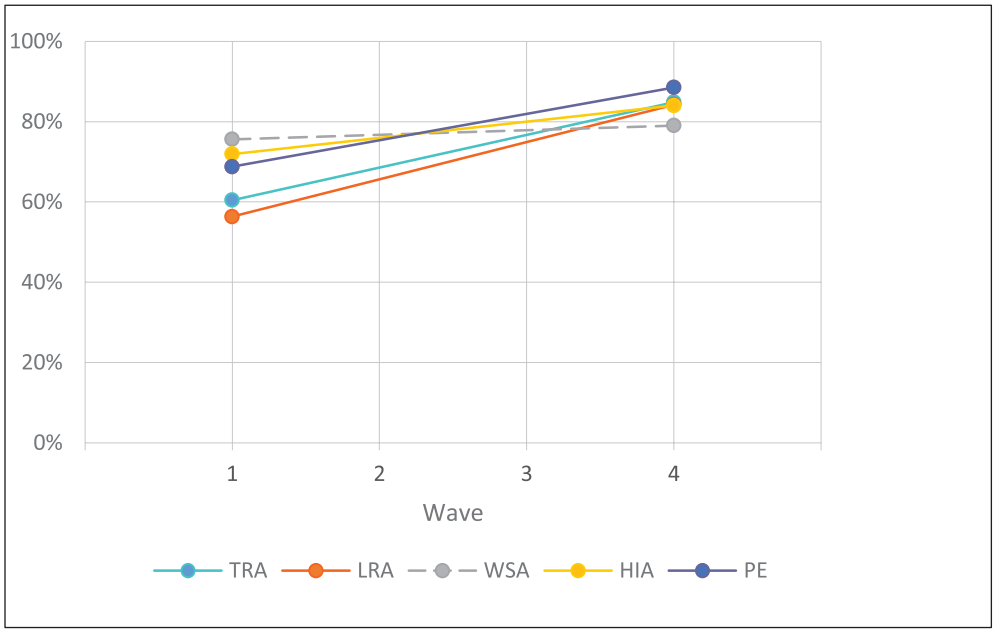
Housing empowerment

Participants were asked two questions about how they were empowered through their housing: How satisfied or dissatisfied are you with regards to your landlord or factor in…?

- The way you are kept informed about things that might affect you
- Their willingness to take account of residents' views when making decisions

Possible responses were: very satisfied; fairly satisfied; neither satisfied nor dissatisfied; fairly dissatisfied; very dissatisfied; don't know; not applicable. In our analysis, we examined the change in percentages of those who said they 'very satisfied' or 'fairly satisfied' compared with those who gave any other response except 'not applicable'.

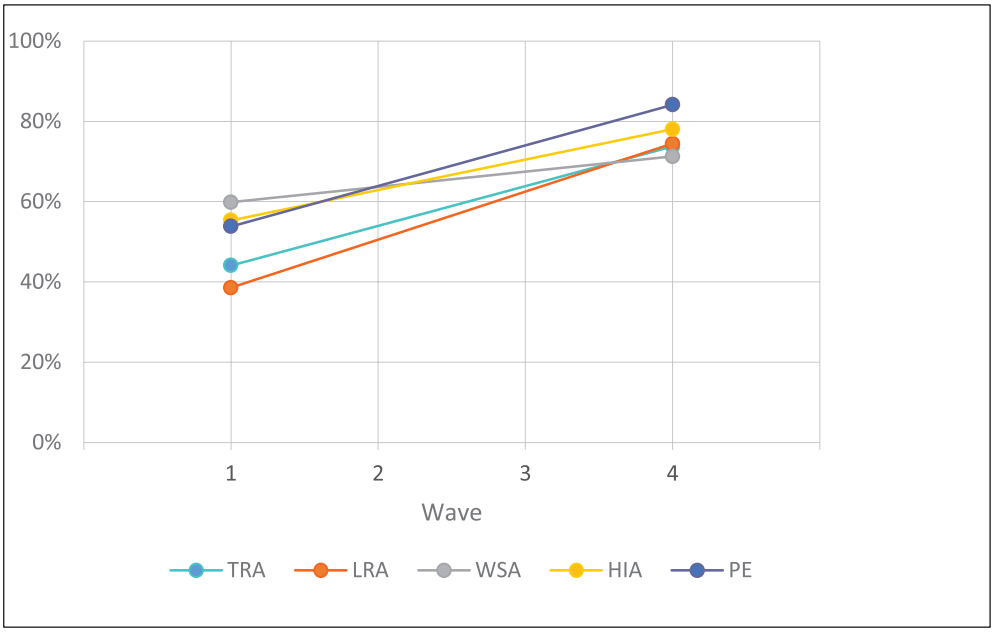
Figure 4.6: Being informed about housing by landlord or factor: percentage who said they were 'very satisfied' or 'fairly satisfied' (n_{wave1}=4,363; n_{wave4}=2,894).



Key findings:

- The percentage of residents in the TRAs, LRAs, HIAs and PEs who were satisfied with the way they were kept informed by their housing service provider increased significantly ($p<0.001$) between wave 1 and wave 4. The small increase among the WSA residents was not significant.
- By wave 4, a substantial majority (79-89%) of participants in all the IATs were satisfied with the way they were kept informed by their landlord or factor.
- The most widespread improvements occurred in the regeneration areas, with respondents in the LRAs (+28%) and TRAs (+24%) expressing some degree of satisfaction at wave 4. The increases in the HIAs (+12%) and the PEs (+20%) were, nevertheless, also substantial.
- Due, in particular, to the increased percentages of satisfied residents in the regeneration areas by wave 4, the difference between the IATs on this indicator was approximately halved over time.

Figure 4.7: Landlord's or factor's willingness to take account of residents' views: percentage who said they were 'very satisfied' or 'fairly satisfied' (n_{wave1}=4,363; n_{wave4}=2,785).



Key findings:

- Significantly more residents in all the IATs said they were satisfied with the willingness of their housing service provider to take account of the views of residents when making decisions ($p<0.001$) at wave 4 than at wave 1.
- By wave 4, a substantial majority (71-84%) of participants in all the IATs were satisfied with how their landlord or factor considered their views.
- The biggest increase was noted in the LRAs (+36%), followed by slightly smaller increases in the TRAs and PEs (+30%). The increases in percentages of satisfied residents in the HIAs (up by 23%) and the WSAs (11%) were also substantial.

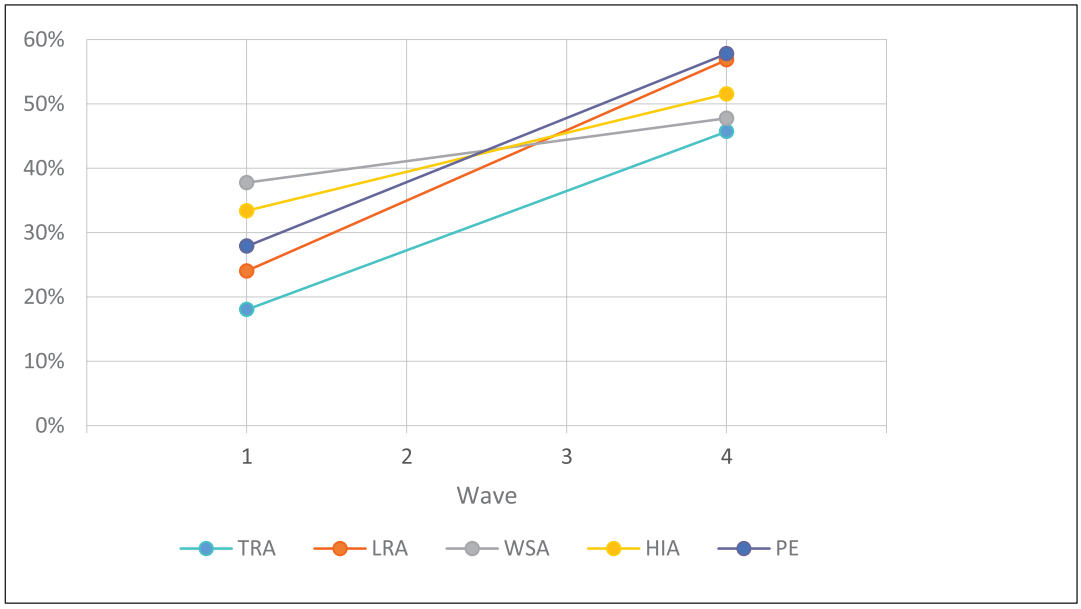
Neighbourhood empowerment

Participants were asked three questions about the extent to which they were empowered through their neighbourhood: How much do you agree or disagree with the following statements:

- On your own, or with others, you can influence decisions affecting your local area (waves 1-4)
- People in this area are able to find ways to improve things around here when they want to (waves 2-4)
- The providers of local services, like the council and others, respond to the views of local people (waves 2-4).

Possible responses were: strongly agree; agree; neither agree nor disagree; disagree; strongly disagree; don't know. In our analysis, we examined the change in percentages of those who said they 'strongly agree' or 'agree'.

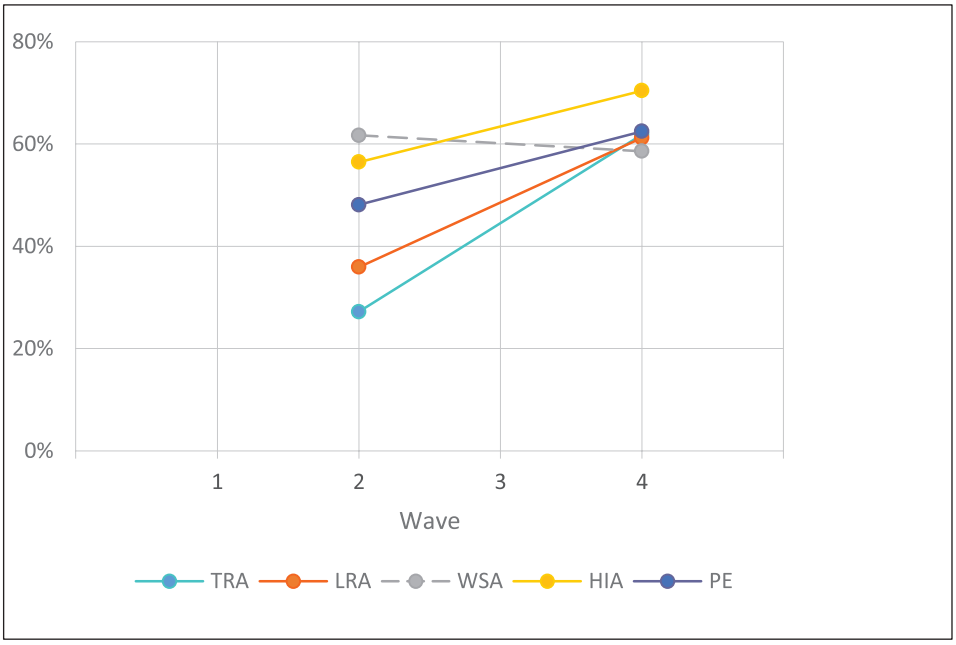
Figure 4.8: Neighbourhood influence: percentage who said they 'strongly agree' or 'agree' (n_{wave1}=5,955; n_{wave4}=3,125).



Key findings:

- There were significant increases between wave 1 and wave 4 in the proportion of participants in all the IATs who believed that, on their own or with others, they could influence decisions affecting their local area ($p<0.001$).
- The greatest increases were seen in the regeneration areas (LRAs +33%; TRAs +28%), and in the PEs (+30%). Increases in the HIAs (+18%) and WSAs (+10%) were more modest.
- By wave 4, the proportion of participants who believed that they could influence local decision-making ranged from 46% in the TRAs to 58% in the PEs.
- There was a slight narrowing of the differences in levels of perceived local influence between the IATs over time.

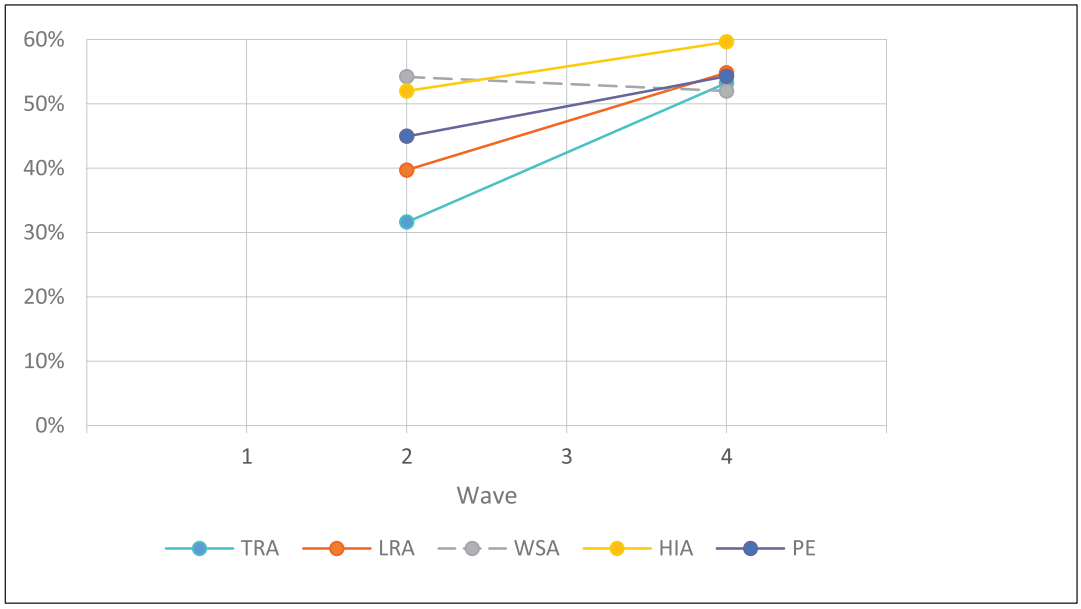
Figure 4.9: Neighbourhood proactivity: percentage who said they 'strongly agree' or 'agree' (n_{wave1}=4,517; n_{wave4}=3,041).



Key findings:

- There were significant increases between wave 2 and wave 4 in the percentages of participants in the regeneration areas and the HIAs and PEs who agreed that people could find ways to improve things in their neighbourhood when they so wished ($p<0.001$). There was no significant change in this view among participants in the WSAs.
- By wave 4, the majority of participants (59-70%) in all five IATs agreed that proactivity among local residents could be effective in improving things locally.
- The greatest improvements were seen in the regeneration areas, where, starting from relatively low baselines (≤36%), residents with a sense of their proactive empowerment increased by +35% in the TRAs and by +25% in the LRAs. The HIAs and PEs both experienced increases of +14%.
- The sharper rise over time in the two regeneration IATs meant that, the range of proportions of participants across the IATs who identified local proactive empowerment was considerably narrower by wave 4 than it had been at wave 1.

Figure 4.10: Responsiveness of local service providers: percentage who said they 'strongly agree' or 'agree' (n_{wave1}=4,515; n_{wave4}=3,453).



Key findings:

- There were significant increases between wave 2 and wave 4 in the percentages of participants in the regeneration areas and the HIAs and PEs who agreed that local service providers responded to the views of local people ($p<0.001$). There was no significant change among participants in the WSAs.
- By wave 4, the majority of participants (52-60%) in all five IATs agreed that service providers responded to the views of local people.
- Once again, the greatest increases were seen in the regeneration areas, where, starting from relatively low baselines (≤40%), the percentage of participants who identified responsiveness of the part of service providers increased by +22% in the TRAs and by +15% in the LRAs. The HIAs and PEs experienced increases of+ 8% and +9%, respectively.
- The sharper rise over time in the two regeneration IATs meant that the range of proportions of participants across the IATs who identified local service responsiveness was narrower at wave 4 than it had been at wave 1.

4.5. Summary

A summary of our findings on indicators of psychosocial benefits is given in Table 4.1.

For four of the IATs, there were significant improvements in most psychosocial factors: nine-out-of-ten in the case of the TRAs, LRAs and PEs; and eight-out-of-ten in the case of the HIAs. Only half the indicators improved for participants in the WSAs.

There was more widespread improvement in the empowerment indicators than in the status indicators. The weakest area was in the perceived external reputation of the neighbourhood. Despite the improvements in neighbourhood environmental factors noted earlier, perceptions of the external reputation of the neighbourhood among residents did not improve significantly in any of the IATs, and declined in three of them. It may be that residents do not believe that the improvements to their environments have been noticed or would be influential upon the views of their area held by people living elsewhere, or it may be that the poorer performance on social indicators has prevented an improvement in the areas' perceived external reputations.

Generally, higher proportions of participants held positive views about housing-related psychosocial factors than about neighbourhood-related factors. The weakest indicators at wave 4 were the external-reputation factor and the influence-local-decisions factor. Of the three neighbourhood empowerment factors, the most widespread positive views among residents were in respect of proactivity, followed by service responsiveness, and then influencing decisions.

Inequalities reduced for eight of the ten psychosocial indicators, mainly because of the greater improvement over time in indicators for the regeneration areas than for other areas.

Table 4.1. Summary of significant positive and negative changes in psychosocial factors between wave 1 (or wave 2) and wave 4.

	Intervention Area Type					Reduced
Psychosocial Factor	TRAs	LRAs	WSAs	HIAs	PEs	inequality
Status						
Progress in life through the home	+	+	+	+	+	
Desirability of the home *	+	+			+	✓
Progress in life through the neighbourhood	+	+	+	+	+	✓
Reputation of neighbourhood						
Internal	+	+	+	+	+	✓
External	–			–	–	X
Emmpowerment						
Kept informed by landlord/factor	+	+		+	+	✓
Landlord/factor takes residents' views into account	+	+	+	+	+	✓
Influencing decisions affecting local area	+	+	+	+	+	✓
Proactively can find ways to improve things locally *	+	+		+	+	✓
Local service providers respond to local people's views *	+	+		+	+	✓

+, increase in positive or reduction in negative outcome; –, reduction in positive or increase in negative outcome. ✓ and X indicate reduced or increased inequality, respectively. * indicates comparison between wave 2 and wave 4.

5
Economic factors

5.1. Introduction

Economic factors are crucial for health and wellbeing since poverty has a direct impact upon the resources available to a household for healthy living, while the stresses associated with struggling to make ends meet can be detrimental to physical and mental health. Employment, if well-paid, secure and dignified, can boost people's identity, self-esteem, status and mental wellbeing; alternatively, insecure or very demanding employment can be stressful. In our own research, we have found that employment for people in deprived areas can have a larger and more positive impact upon physical and mental health than many housing improvement works[31].

Past attempts of various kinds to boost employment in regeneration areas have been found to be relatively unsuccessful[32]. Large-scale economic area transformation projects have not spread jobs to nearby areas of worklessness, i.e. the so-called 'trickle-down' effect has not been operative. Attempts to create jobs directly through regeneration activity have been criticised as unsustainable and insufficient in scale. The Linking Opportunity and Need (LOAN) approach to preparing individuals for work and directing and supporting them to compete for jobs has been found to lack the required range and duration of supports. Moreover, cultural and practical barriers to mobility for travelling to jobs has not been tackled effectively.

The links between regeneration policy and economic development strategy are said historically to have been weak in Scotland. People-based programmes within regeneration areas (such as LOAN) were not part of a strategic approach to economic development[33], and economic development was not seen as appropriate for regeneration areas, but rather something that should predominantly happen elsewhere[34].

In this chapter, we examine trends over time among our respondents in rates of employment, long-term sickness or disability, and workless households. Then, in relation to poverty, we look at reported difficulties paying for fuel, food and housing costs over time.

[31] Curl A, Kearns A, Mason P, Egan M, Tannahill C, Ellaway A. Physical and Mental Health Outcomes following Housing Improvements: Evidence from the GoWell Study. *Journal of Epidemiology and Community Health* 2015;69:12-19.

[32] For a review see: Dodds S. *Government Urban Regeneration Practice: Review of UK Evidence*. Edinburgh: Scottish Government; 2011.

[33] Glass A, et.al. *Linking Opportunity and Need: Maximising the Regeneration Benefits from Physical Investment*. Edinburgh: Scottish Government; 2008.

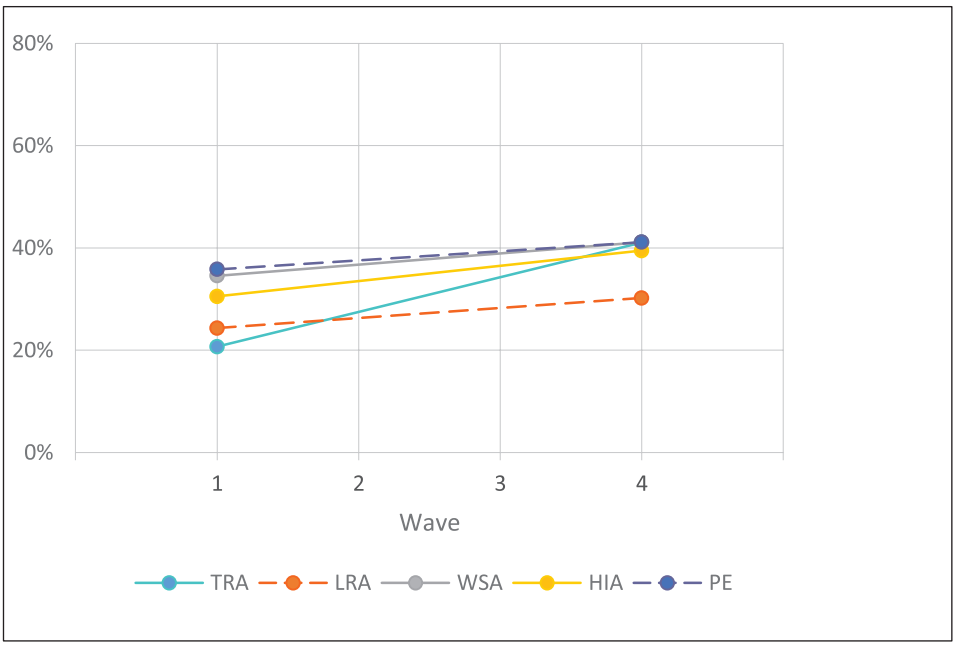
[34] Robertson D. *Regeneration and Poverty in Scotland: Evidence and Policy Review*. Sheffield: CRESR; 2014.

5.2. Employment

Participants stated which of the following occupational categories most accurately represented their employment status: full-time paid work (including self-employed); part-time paid work (including self-employed); Government or other training scheme; main unpaid carer for family member, relative or friend; unemployed; retired; temporary sick; long-term sick or disabled without a job; looking after the home or family; full-time education; other specified type.

In our analysis, we examined the change in the percentages of working-age women and men in full- or part-time work or in full-time education.

Figure 5.1: Percentage of working-age women in FT or PT employment or FT education (n_{wave1}=2,857; n_{wave4}=1,674).

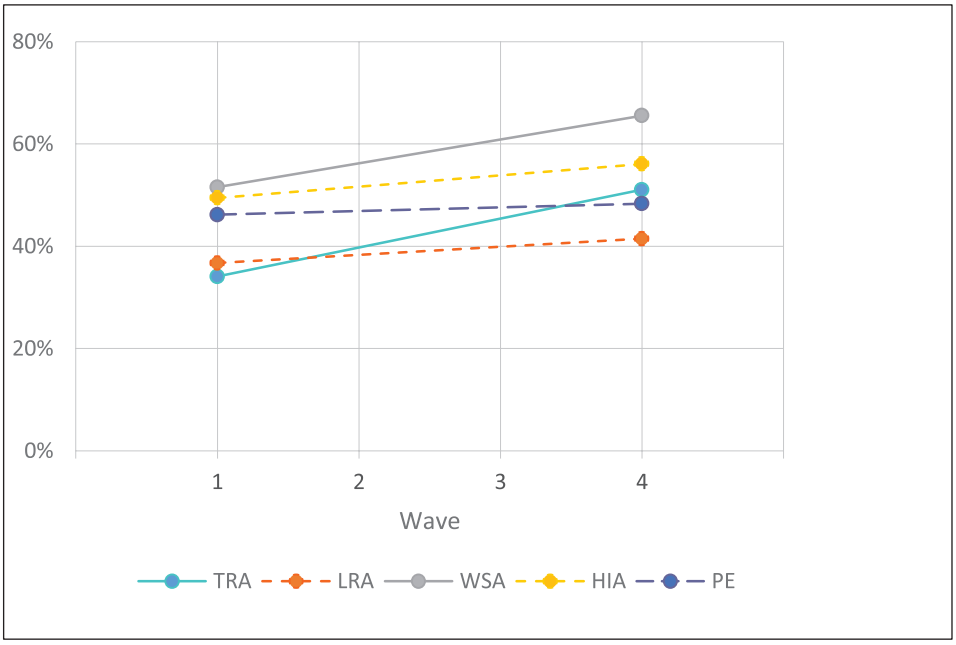


Key findings:

- There were increases across the IATs in the percentage of female participants (of working age) in full- or part-time employment or full-time education between wave 1 and wave 4, but these changes were only statistically significant for residents in the TRAs, WSAs and HIAs ($p \leq 0.031$).
- By wave 4 around four-in-ten female participants (of working age) were in some type of paid work or education in all the IATs except for the LRAs, where three women in ten were similarly occupied.
- The greatest increase in rates of employment and education was seen among female participants (of working age) living in the TRAs. Their rate doubled, rising by +20% from their low baseline at wave 1. The increases among women from the WSAs and HIAs were more modest, at +7% and +9%, respectively.
- The improvement among the female participants from the TRAs was largely responsible for the narrowing of the gaps between the employment and education rates of the five IATs.

- Supplementary analysis (full results not shown) of working-age female participants revealed a +14% increase in those in full-time work who were living in the TRAs. This may be due in part to the drop in the proportion of asylum seekers in these areas by wave 4 (who are prohibited from working), rather than being the result of more women entering employment. In all other IATs, the proportion of female participants in full-time work had fallen by wave 4 – by -6% in the LRAs and by around -1% in the non-regeneration areas.
- By contrast, the proportion of female participants of working age in part-time employment increased across all the IATs, the increases being highest in the regeneration areas (+15% in the TRAs; +10% in the LRAs), with more modest increases (of +4% to +6%) in the non-regeneration areas.
- The numbers of female participants of working age in full-time education fell slightly in the TRAs (-3%) but rose modestly in all the other IATs by +2% to +4%.

Figure 5.2: Percentage of working-age men in FT or PT employment or FT education (n_{wave1}=2,502; n_{wave4}=1,488).



Key findings:

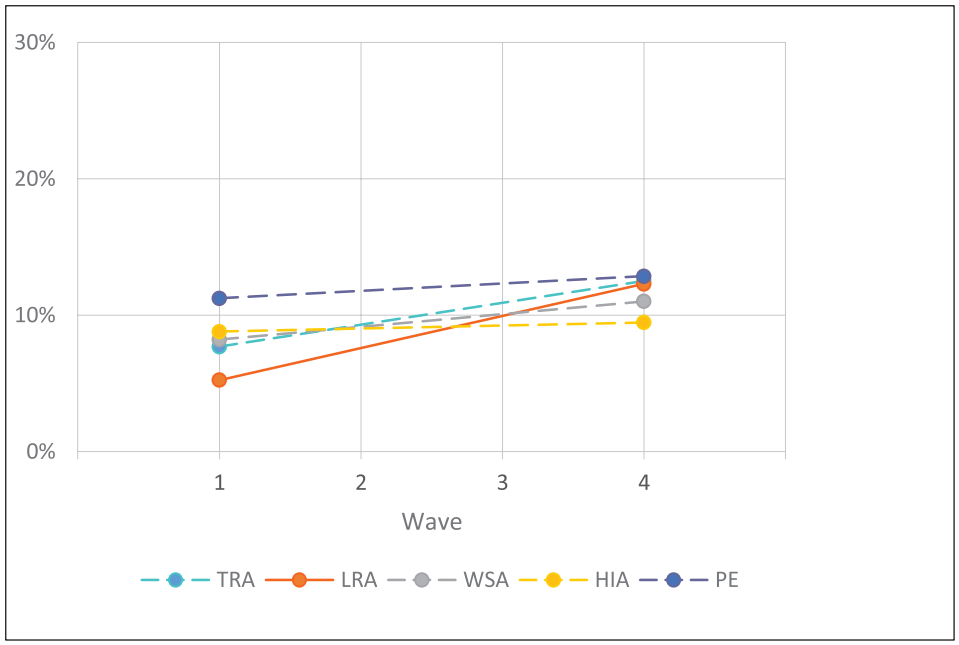
- There were increases across the IATs in the percentage of male participants (of working age) in full- or part-time employment or full-time education between wave 1 and wave 4, although these changes were only statistically significant for residents in the TRAs and WSAs ($p<0.001$).
- By wave 4, the proportion of male participants (of working age) who were in some type of paid work or education ranged from 41% in the LRAs to 66% in the WSAs, exceeding the rates for women in each of the area types.
- The increases were similar among male participants in the TRAs (+17%) and WSAs (+14%).
- Except in the WSAs, the increases in the employment and education rates were numerically greater for women than for men.

- Supplementary analysis (full results not shown) of the working-age male participants revealed a +13% increase in those in full-time work who were living in the TRAs. As was the case for the women in these areas, this may be partly explained by the lower proportion of asylum seekers in the IATs by wave 4, rather than the result of more men entering employment. In contrast to the pattern observed for women, the proportion of male participants in FT work had risen slightly, by +1% to +3%, by wave 4 in all the other IATs.
- The proportion of male participants of working age in part-time employment increased by +4% to +6% across all the IATs except for the PEs, where there was little change. It is of note that the increase in the prevalence of part-time work in the regeneration areas was lower among men than women.
- The numbers of male participants of working age in full-time education fell slightly in the regeneration areas (-1% to -3%) but rose modestly in all the other IATs by +1% to +3%.

5.3. Disability

We also examined the change in proportions of working-age women and men who considered themselves to be long-term sick or disabled without a job.

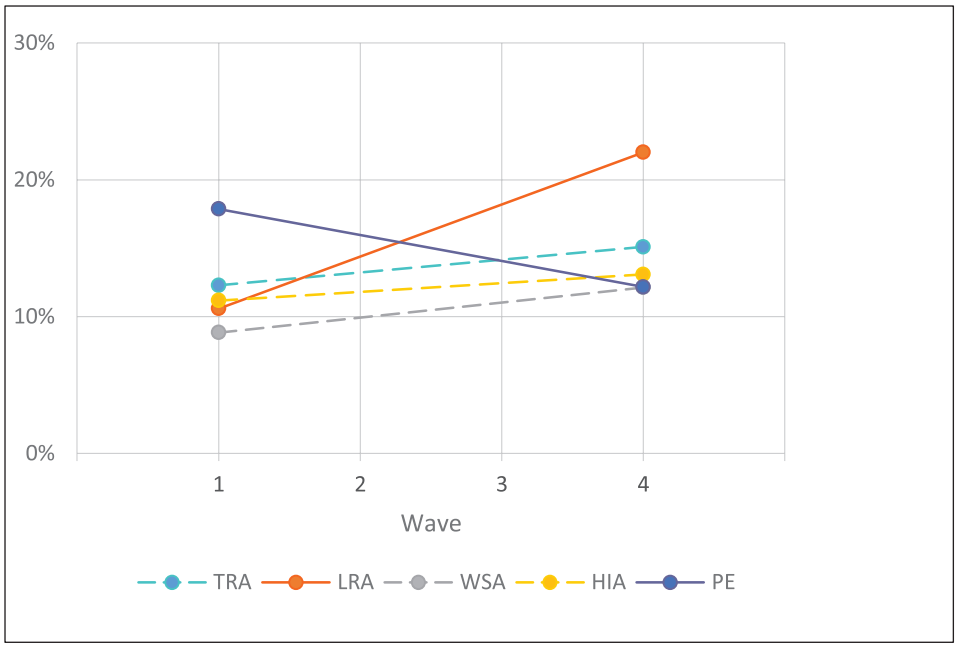
Figure 5.3: Percentage of working-age women who are long-term sick or disabled without a job (n_{wave1}=2,857; n_{wave4}=1,673).



Key findings:

- From low baseline levels, there were small increases from wave 1 to wave 4 in the percentage of working-age female participants who were not working due to long-term illness or disability (+0.7% to +7.0%), although the change was significant only among those women in the LRAs (+7% increase; p=0.003).
- By wave 4, the proportion of female participants of working age who were not working as a consequence of long-term health conditions ranged from 9% in the HIAs to 13% in the PEs.
- The proportions of chronically ill and disabled working-age female participants in the IATs became more similar by wave 4 due to the increase in this component in the LRAs.

Figure 5.4: Percentage of working-age men who are long-term sick or disabled without a job (n_{wave1}=2,986; n_{wave4}=1,771).



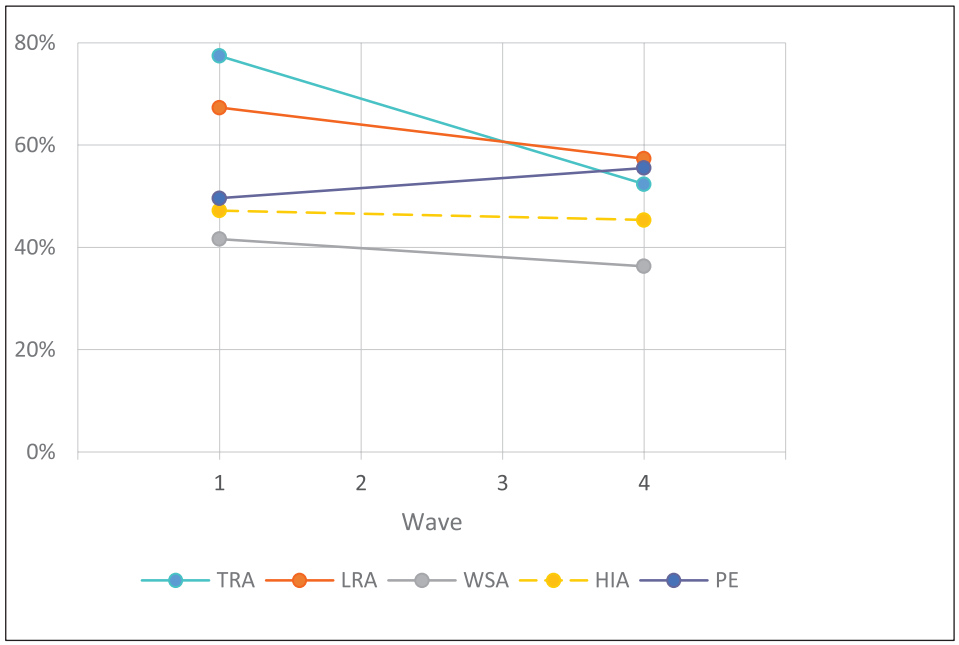
Key findings:

- There was a significant drop of -6% in the percentage of working-age male participants in the PEs who were not working due to long-term illness or disability (p=0.015).
- Otherwise, from low baseline values, there were small increases from wave 1 to wave 4 in the corresponding percentages for the other IATs (of +2% to +11%). The change was significant only among male participants in the LRAs (+11%; p<0.001).
- By wave 4, the proportion of working-age male participants who were not working as a consequence of long-term health conditions ranged from 12% in the PEs to 22% in the LRAs. These proportions were all higher than those for female participants in the corresponding IATs.

5.4 Worklessness

We examined the change in the proportion of workless households. 'Workless households' are defined as those households that contain at least one adult under the age of 65 years, but without any adult (of any age) in the household being in full- or part-time employment. The number of workless households is then expressed as a percentage of all households in the area (IAT).

Figure 5.5: Percentage of workless households.



Key findings:

- The proportion of workless households in both regeneration area types decreased significantly between wave 1 and wave 4, by -25% in the TRAs and by -10% in the LRAs ($p<0.001$). With respect to the non-regeneration areas, the proportion of workless households fell over time in the WSAs by -5% ($p=0.028$), but increased in the PEs by +5% ($p=0.012$). There was no significant change in the proportion of workless households in the HIAs.
- The proportions of workless households varied considerably between the IATs at both time points, ranging between 42% and 77% at wave 1, and between 36% and 57% at wave 4.

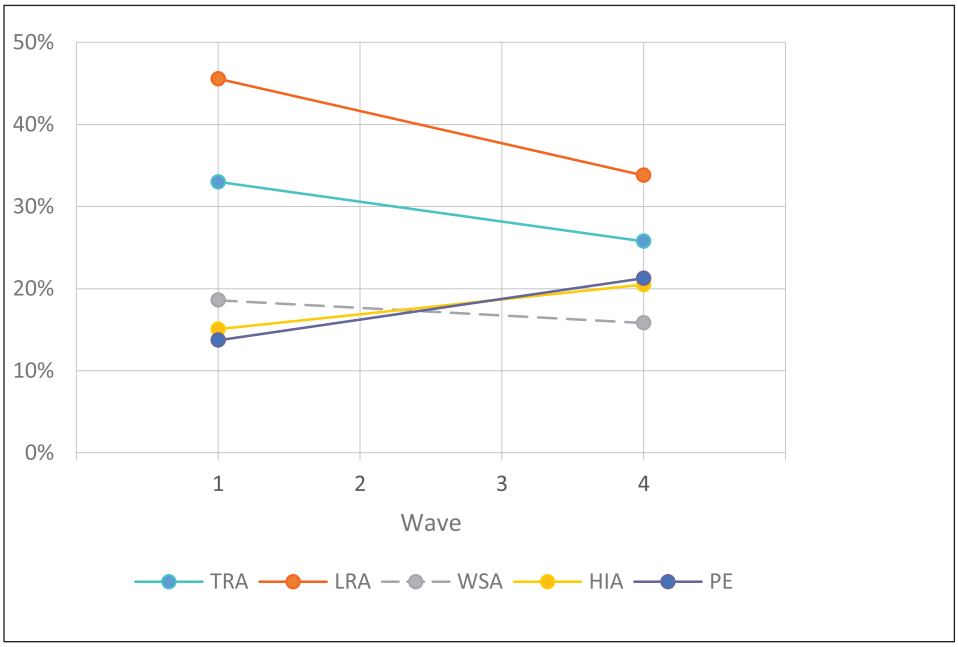
5.5. Affordability difficulties

In order to explore issues of poverty, participants were asked: Which option best describes how often you find it difficult to meet the cost of the following items:

- Gas, electricity and other fuel bills.
- Food.
- Rent or mortgage.

Possible responses were: very often; quite often; occasionally; never; don't know; not applicable. In our analysis, we examined the change in percentages of those who said they had difficulty paying for the item either occasionally, quite often or very often. Participants who considered the item 'not applicable' were not included in the analysis. Difficulty affording the rent or mortgage was examined separately for the three tenures: owner-occupation (mortgage); social-rented; and private-rented.

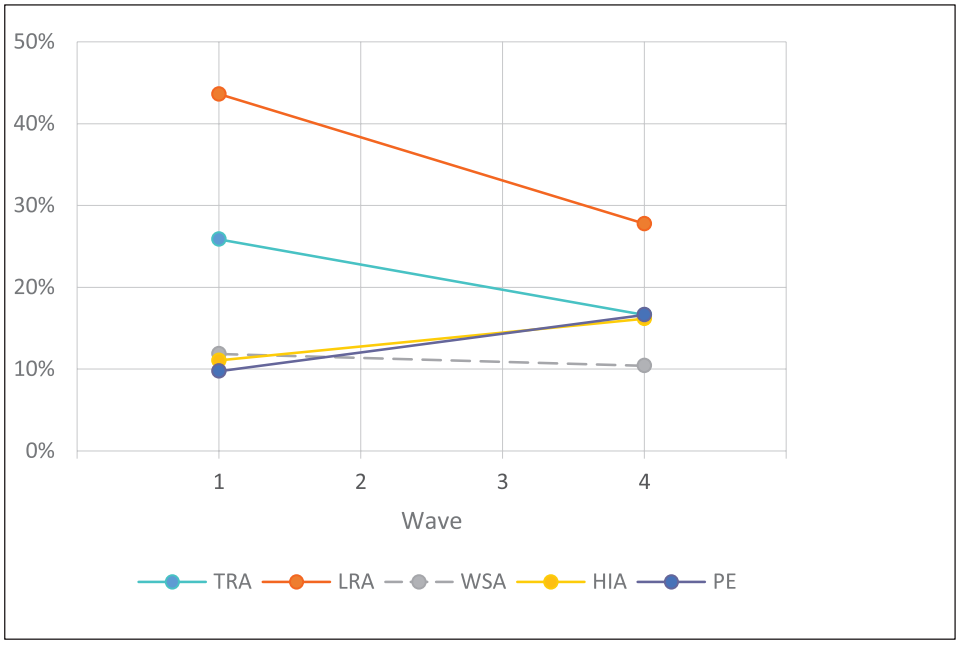
Figure 5.6: Affordability: percentage of participants who ever have any difficulty paying fuel bills (n_{wave1}=5,957; n_{wave4}=3,430).



Key findings:

- There were significant decreases between wave 1 and wave 4 in the percentage of participants in the regeneration areas who had some degree of difficulty paying their fuel bills (-7% drop in the TRAs, p=0.011; -12% in the LRAs, p<0.001). Conversely, fuel affordability became more common among residents of two of the non-regeneration areas (a +5% increase in the HIAs, p=0.001; +8% in the PEs, p<0.001). There was no significant change in the prevalence of fuel affordability problems among residents of the WSAs.
- By wave 4, the proportion of participant households who were experiencing problems with fuel affordability ranged from 16% in the WSAs to 34% in the LRAs, a narrower range than at wave 1.

Figure 5.7: Affordability: percentage of participants who ever have any degree of difficulty paying for food (n_{wave1}=5,956; n_{wave4}=3,433).

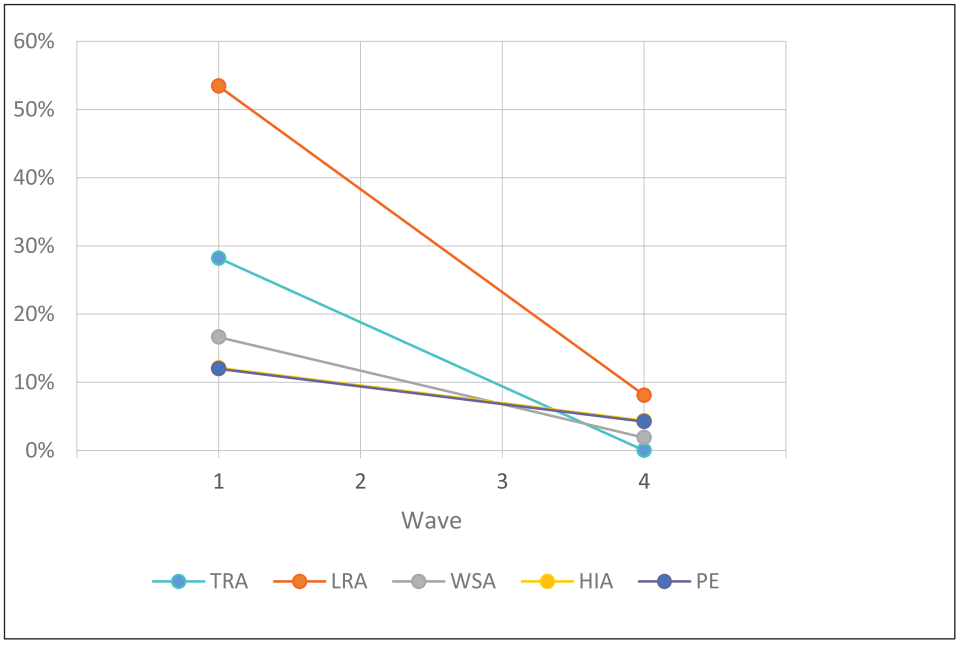


Key findings:

- The pattern of food affordability problems was very similar to that for fuel bills. There were significant decreases between wave 1 and wave 4 in the percentage of participants in the regeneration areas with food affordability difficulties (-9% drop in the TRAs, p=0.011; -16% drop in the LRAs, p<0.001).
- Conversely, fuel affordability difficulties became more common among participants in two of the non-regeneration areas (+5% increase in the HIAs, p=0.001;+ 7% in the PEs, p<0.001). There was no significant change in the prevalence of fuel affordability problems among participants in the WSAs.
- By wave 4, the proportion of participant households in the five IATs were experiencing problems with food affordability ranged from 10% in the WSAs to 28% in the LRAs, a narrower range than at wave 1.

Difficulty being able to afford mortgage or rent payments were analysed with respect to the three tenures (owner-occupied; social-rented; private-rented).

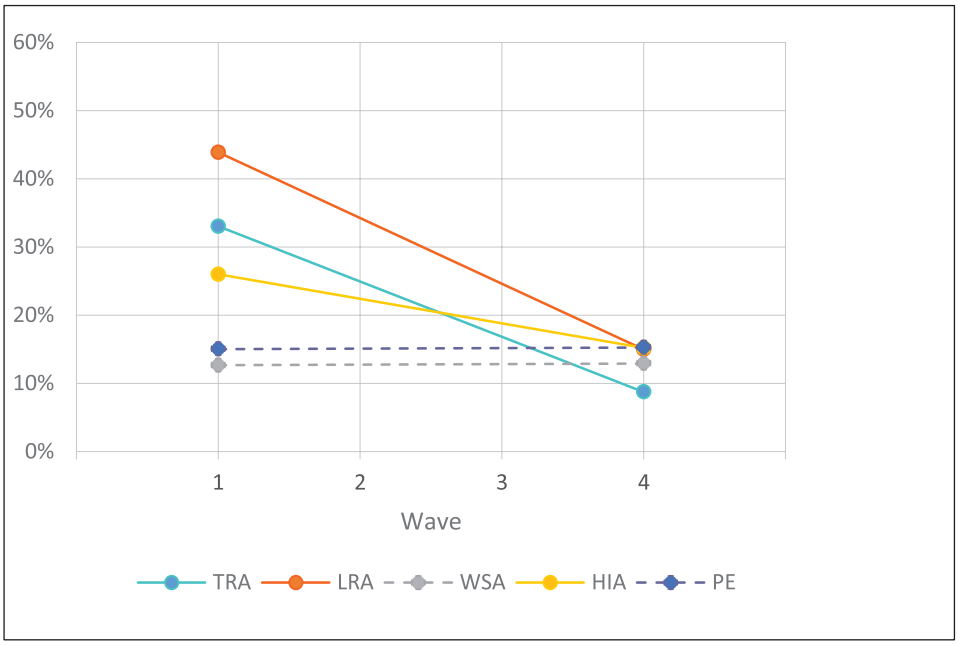
Figure 5.8: Affordability: percentage of participants who ever have any degree of difficulty paying their mortgage (owner-occupiers) (n_{wave1}=1,538; n_{wave4}=883).



Key findings:

- There were significant reductions in the extent of mortgage affordability difficulties among owner-occupiers in all the IATs. By far the greatest decrease was among home owners in the LRAs (-45%, p<0.001). By wave 4, none of the owner-occupiers in the TRAs said they had any difficulty paying their mortgage (a drop of -28%; p<0.001). It is worth bearing in mind, however, that the owner-occupied sector is very small (around 10% of residents or less) in the regeneration areas.
- Reductions in the rate of mortgage affordability difficulties in the non-regeneration areas were, at most, approximately half of those in the regeneration areas (-8% to -15%). In the non-regeneration areas, the owner-occupied sector is larger, at 15-44% of residents at wave 4, though it has been shrinking in size over time.
- By wave 4, fewer than one-in-ten owner-occupiers in each of the IATs (0% to 8%) reported having mortgage affordability difficulties.

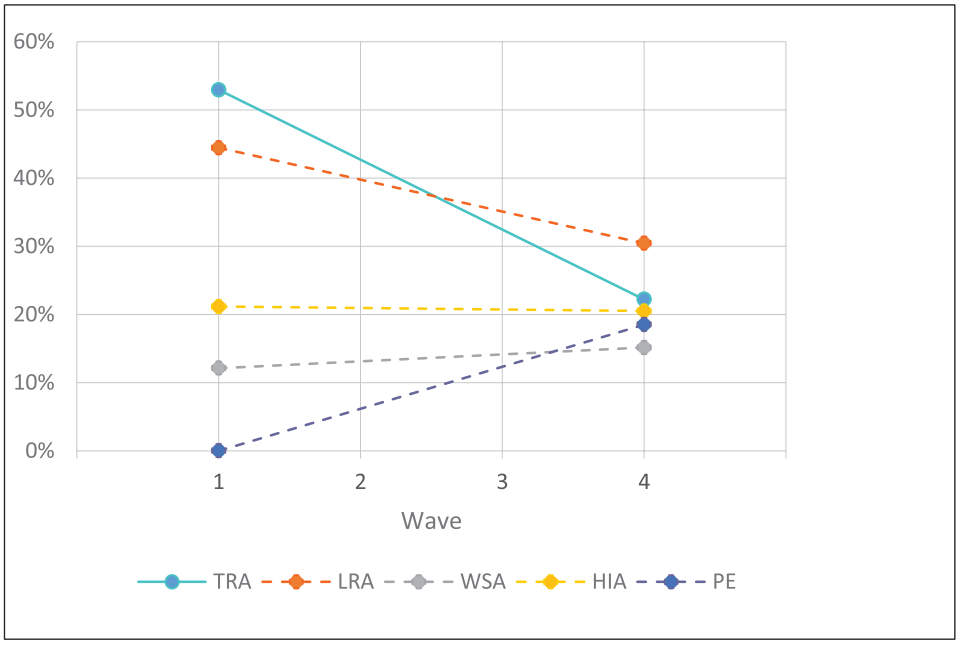
Figure 5.9: Affordability: percentage of participants who ever have any degree of difficulty paying their rent (social renters) (n_{wave1}=4,275; n_{wave4}=2,277).



Key findings:

- There were significant reductions in the extent of rent affordability problems among social renters in both the regeneration area types and in the WSAs. Starting from the highest baseline levels at wave 1, there were decreases of -29% in the LRAs and of -24% in the TRAs. The social rented sector is still very large in these areas, at over four-fifths of residents at wave 4. By contrast, the drop in the proportion of HIA social renters experiencing rent affordability difficulties was only -11%.
- The two non-regeneration area types which had the lowest percentage of residents with rent affordability difficulties at wave 1, the HIAs and the PEs, experienced no significant changes over the period of 2006-2015.
- By wave 4, fewer than one-in-seven participants who rented their home from an RSL (9% to 15% by IAT) reported having difficulty paying their rent.
- The substantial drop in the prevalence of difficulties in three of the IATs led to a 3.5-fold reduction in the range of percentages of social renters having problems paying their rent across the IATs.

Figure 5.10: Affordability: percentage of participants who ever have any degree of difficulty paying their rent (private renters) (n_{wave1}=141; n_{wave4}=244).



Key findings:

- The relatively small number of participants in private rental accommodation in the GoWell samples (<5% in all IATs at wave 1; <10% in all IATs at wave 4) makes it more difficult to identify significant changes over time within this sector.
- More than half of the private renters in the TRAs said they had some degree of difficulty paying their rent at wave 1, but the prevalence had dropped by -31% by wave 4 (p=0.015). None of the other IATs showed any significant changes over the 2006-2015 period.

5.6. Summary

Our summary of findings in respect of economic factors is given in Table 5.1.

The employment situation improved in some but not all the IATs over time. This occurred against a backdrop where the adult employment rate in Glasgow reached its highest level for a decade at 66.5% in 2015, with a +5% increase in the five-year period 2010-2015[35]. Women's employment increased in three IATs, men's employment increased in two IATs, and worklessness reduced in three IATs. Gains in employment indicators over time were most common in the TRAs and WSAs, at a rate of increase that appears to be at least as great, if not slightly greater, than for the city as a whole, although population change in the regeneration areas may have contributed to this. In contrast, rates of long-term sickness got worse over time for both men and women in the LRAs. The decrease in worklessness in the regeneration areas and their surroundings is in contrast to a slight rise in unemployment

[35] Glasgow City Council. *Labour Market Trends for Glasgow. Report to Regeneration and Economic Policy Development Committee 16 August 2016*. Glasgow: GCC; 2016.
[36] The Glasgow unemployment rate for adults aged 16 or over was 8.0% in 2006/7 and 8.5% in 2015/16. Source www.understandingglasgow.com

over the same period for the city as a whole, whereas the increase in worklessness in the peripheral estates is more in line with the city-wide unemployment trend in the period[36].

As regards the experience of poverty, trends over time were mixed for food and fuel bills and positive for housing costs. The experience of difficulties paying for fuel and food decreased over time in the TRAs and LRAs, while worsening in the HIAs and PEs. Difficulties paying for mortgage costs reduced in prevalence across all the IATs, while difficulties paying social sector rents reduced in three IATs (the two regeneration area types plus the HIAs), and difficulties paying private rents reduced in one type of area (TRAs).

Although we cannot identify the reasons for changes in the affordability of household budget items, our findings overall do not indicate a worsening problem of paying housing costs associated with the widespread improvement of the housing stock, something observed in past studies and hypothesised as a potential outcome in theories of change for housing investment and health[37].

Inequalities between the IATs have reduced over time in respect of women's employment and long-term sickness, workless households, and all three forms of affordability difficulty (food, fuel and housing costs).

Table 5.1. Summary of significant positive and negative changes in economic factors between wave 1 and wave 4.

	Intervention Area Type					Reduced
Employment Factor	TRAs	LRAs	WSAs	HIAs	PEs	inequality
Employment						
FT/PT employment or FT education						
Women	+		+	+		✓
Men	+		+			X
Workless households	+	+	+		–	✓
Disability						
Long-term sick without a job						
Women		–				✓
Men		–			+	
Affordability						
Fuel bills	+	+		–	–	✓
Food	+	+		–	–	✓
Rent or mortgage						
Owner-occupier	+	+	+	+	+	✓
Social-renter	+	+		+		✓
Private-renter	+					✓

+, increase in positive or reduction in negative outcome; –, reduction in positive or increase in negative outcome. ✓ and X indicate reduced or increased inequality, respectively.

[37] Thomson H, Thomas S. Developing empirically supported theories of change for housing investment and health. *Social Science & Medicine* 2015;124:205-214.

6
Health and wellbeing

6.1. Introduction

We have previously described how health improvement has increasingly featured as an objective within regeneration programmes over the past two or three decades[38]. From a situation where a few health projects were funded within regeneration programmes, there has been progression through the involvement of health sector organisations within regeneration partnerships to a position initially established within the New Deal for Communities in England where health outcome measures are part of the evaluation framework for regeneration programme[39]. The Scottish Government's current Regeneration Strategy talks of 'creating health-nurturing environments'[40] and 'places [that] are sustainable and promote wellbeing'[41].

Notwithstanding this growing interest in health, a review of the evidence from UK regeneration programmes undertaken a decade ago found little available evidence of impacts upon health outcomes[42]. More recently, however, a ten-year follow up of the New Deal for Communities found relative improvements in mental health and self-reported health in the intervention areas[43]. In an earlier synthesis of our findings, we identified that regeneration could contribute to better health in three ways: by acting on influential factors such as housing or the environment; by acting on the fundamental determinants of health such as education, power, poverty and so on; and by adopting a holistic, context-specific response through partnerships between different public, private and third sector actors and communities themselves[44].

Given the possibility that regeneration, if enacted through physical and social means, could in theory have impacts upon a number of the wider determinants of health, in this chapter we look at changes over time in a range of health indicators for our study communities covering three areas: general and physical health; mental health and wellbeing; and health behaviours.

[38] Kearns A, Tannahill C, Bond L. Regeneration and health: conceptualising the connections. *Journal of Urban Regeneration and Renewal* 2009;3(1):56-76.

[39] CRESR. *New Deal for Communities 2001-2005: An Interim Evaluation. Summary*. London: ODPM; 2005.

[40] The Scottish Government. *Achieving a Sustainable Future: Regeneration Strategy*'. Edinburgh: Scottish Government; 2011.

[41] Scottish Government. *Regeneration*. http://www.gov.scot/Topics/Built-Environment/regeneration

[42] Thomson H, Atkinson R, Kearns A, Petticrew M. Do urban regeneration programmes improve public health and reduce health inequalities? A synthesis of the evidence from UK policy and practice (1980-2004). *Journal of Epidemiology and Community Health*, 2006;60(2):108-115.

[43] Batty E, Beatty C, Foden F, Lawless P, Pearson S, Wilson I. *The New Deal for Communities Experience: A Final Assessment Volume 7*. London: CLG; 2010.

[44] Egan M, Tannahill C, Bond L, Kearns A, Mason P. *The Links Between Regeneration and Health: A Synthesis of GoWell Research Findings*. Glasgow: GoWell; 2013.

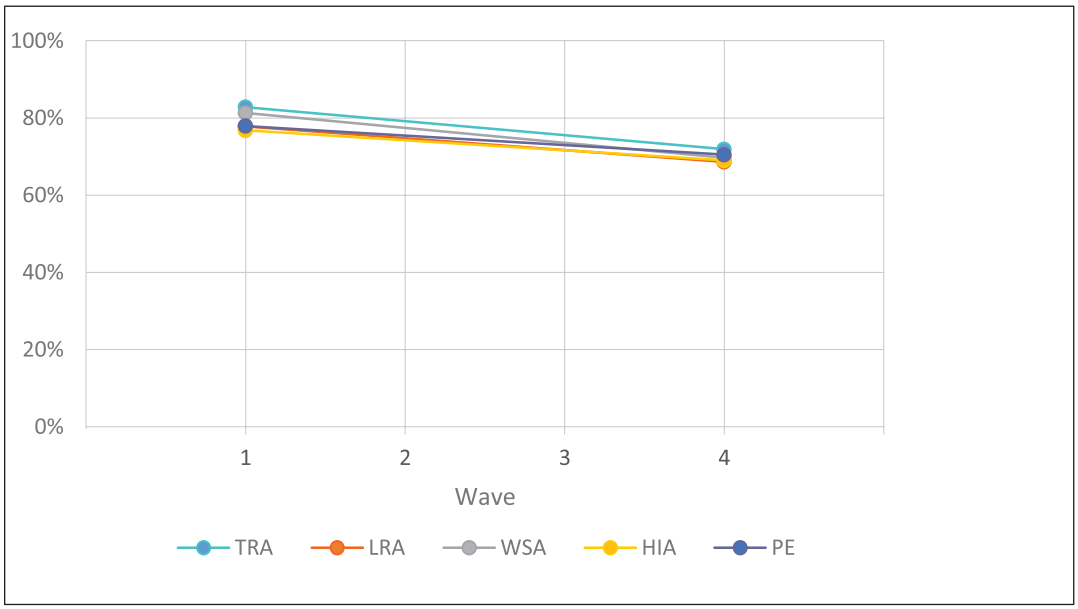
6.2. General and physical health

Self-reported general health

Participants were asked: In general, would you say your health is excellent, very good, good, fair, or poor?

In our analysis, we examined the change in percentages of those who said their health was 'excellent', 'very good' or 'good'.

Figure 6.1: Percentage of participants claiming to be in 'excellent', 'very good' or 'good' general health (n_{wave1}=5,953; n_{wave4}=3,466).



Key findings:

- The proportion of participants who said their health was 'good', 'very good' or 'excellent' decreased significantly in all the IATs between wave 1 and wave 4 (p≤0.001).
- By wave 4, those who considered themselves to be in 'good', 'very good' or 'excellent health' remained in a substantial majority (69-72%) in all the IATs, dropping from 77-83% in wave 1.
- At the same time as levels of self-reported general health declined, inequality across the IATs on this indicator narrowed very slightly over time.
- Further analysis (not shown) by age groups showed that the declines in self-assessed health were smaller (up to -13%) and least widespread (being statistically significant in only one IAT each) among younger adults (aged 16-24 and 25-39 years). All other age groups (aged 40-54, 55-64, and 65+ years) exhibited declines in self-assessed health in at least three IATs, with the drops being larger (up to -28%).
- Declines in self-assessed health were least common among different age groups in the peripheral estates, where there was a statistically significant drop in the proportion rating their health as good only for the 25-39 age group. The WSAs and the HIAs showed statistically significant declines in self-assessed health for three out of five age groups each. In the regeneration areas, self-assessed health declined for two age

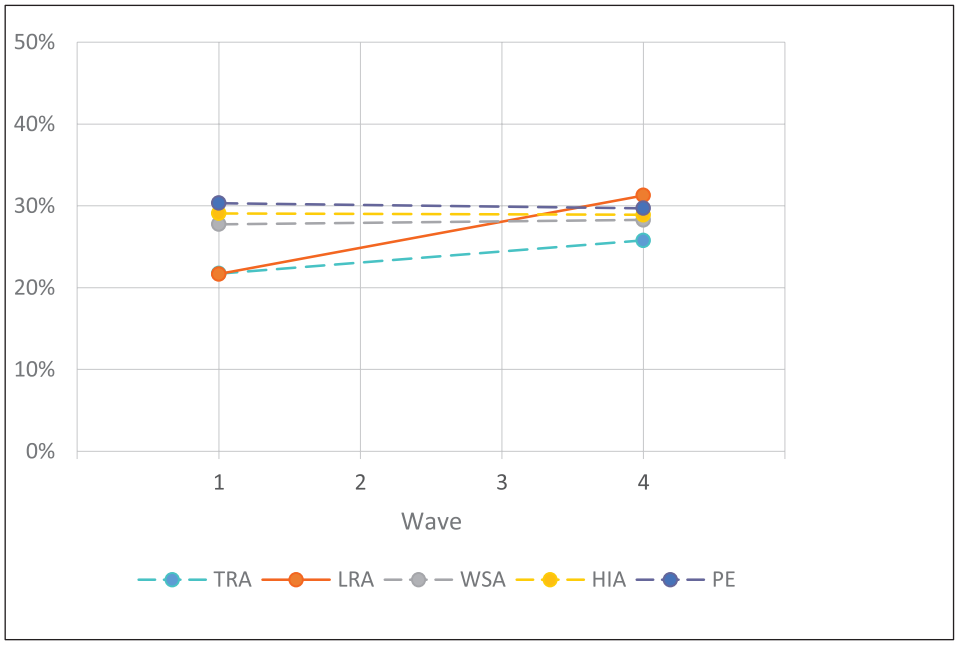
groups: those aged 40-54 and 55-64 in the case of the TRAs, and those aged 40-54 and 65+ in the case of the LRAs.

Long-term physical health conditions

Participants were asked: 'Have you had any of the following health problems regularly over the past 12 months: (1) skin conditions or allergies; (2) breathing problems, asthma or bronchitis; (3) heart, high blood pressure, blood circulation problems; (4) stomach, liver, kidney, digestive problems; (5) migraine or frequent headaches?'

As the frequencies of the individual conditions are too low to warrant separate consideration, our analysis considered the change in the proportions of people with at least one of the five long-term health conditions.

Figure 6.2: Percentage of participants with at least one of five long-term physical health conditions (n_{wave1}=5,957; n_{wave4}=3,471).



Key findings:

- There were no significant changes in the proportions of participants with one or more long-term physical health condition in the non-regeneration areas or in the TRAs.
- However, there was a substantial and significant +10% increase in the proportion of participants in the LRAs with at least one long-term physical health problem. Further analysis revealed that all age groups in the LRAs exhibited an increase in the presence of long-term physical health conditions, but the increase was only statistically significant in the case of those aged 16-24 and 65+ years.
- The significant increase in long-term physical health conditions among those aged 16-24 was also present in the WSAs. Participants aged 25-39 in the HIAs also exhibited a significant increase in the presence of long-term physical health conditions.

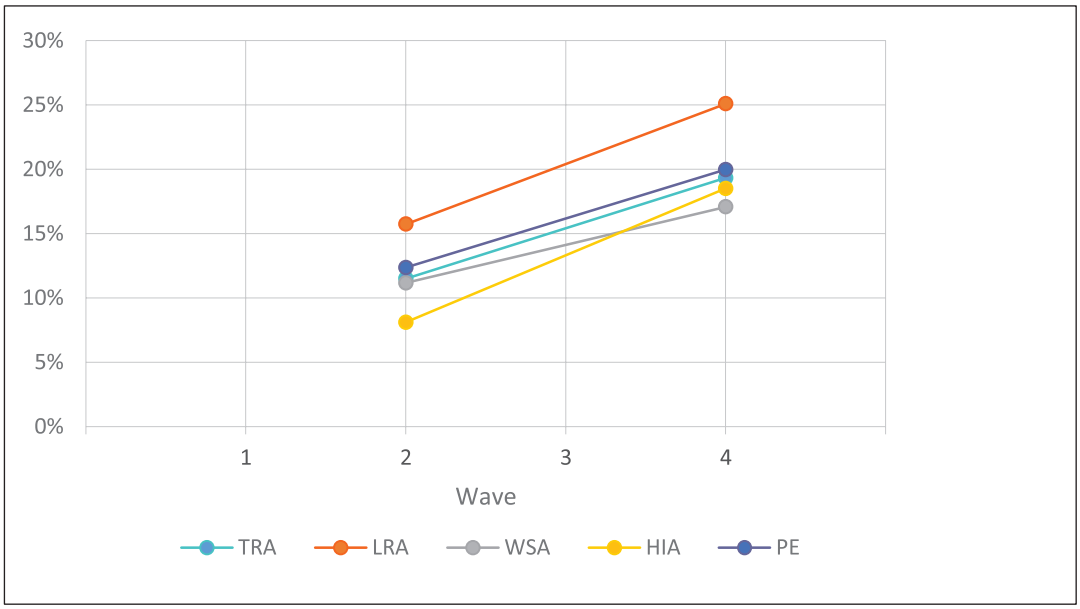
6.3. Mental health and wellbeing

Mental ill-health

At waves 2 and 4, participants were asked: 'Have you had any of the following health problems regularly over the past 12 months: stress, anxiety or depression?'

Positive responses were recorded in the survey interview and non-responses were subsequently interpreted to mean that the participant had not experienced any long-term mental health problems.

Figure 6.3: Mental health: percentage of participants who said they experienced stress, anxiety or depression in the previous 12 months (n_{wave2}=4,518; n_{wave4}=3,471).



Key findings:

- From a low baseline of 8%-16% of residents, there was a significant increase between wave 2 and wave 4 in the proportion of participants in all five IATs who reported having suffered stress, anxiety or depression in the previous year ($p \leq 0.001$).
- The increases were similar across all the IATs (+6% to +10%) so that, by wave 4, the proportion of participants who reported having had a long-term mental health problem in the previous year ranged from 17% in the WSAs to 25% in the LRAs.

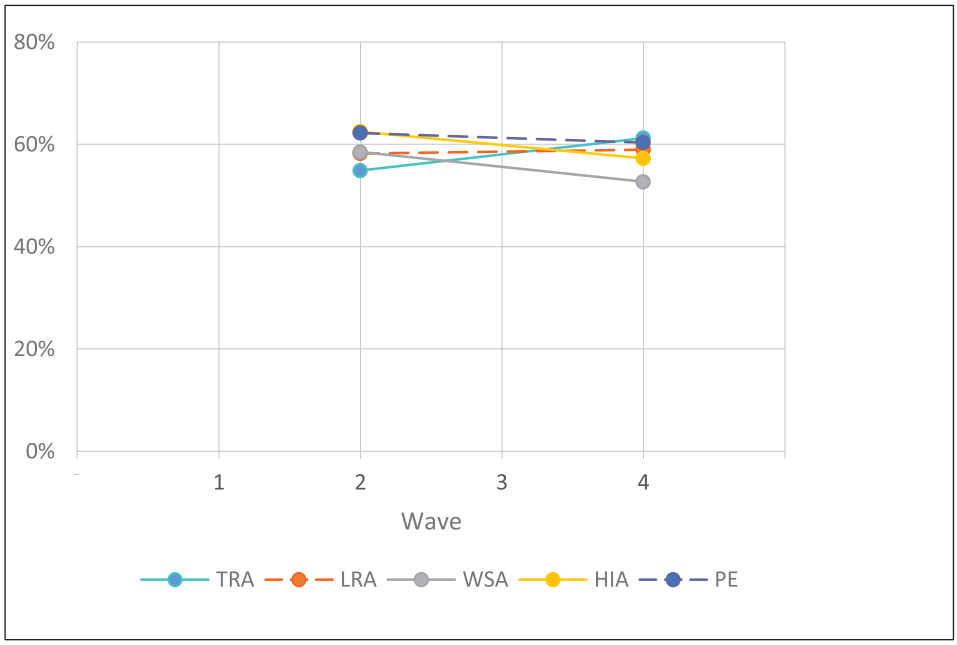
Positive mental wellbeing

At waves 2-4 (but not wave 1), participants were asked about 14 aspects of their positive mental wellbeing. We consider three of these here. Thus, respondents were asked: [Considering] some statements about feelings and thoughts, [what is] the frequency with which each describes your experience over the last two weeks?

- I've been feeling optimistic about the future
- I've been feeling confident
- I've been thinking clearly.

Possible responses were: all of the time; often; some of the time; rarely; never. In our analysis, we examined the change in percentages of those who experienced this 'all of the time' or 'often'.

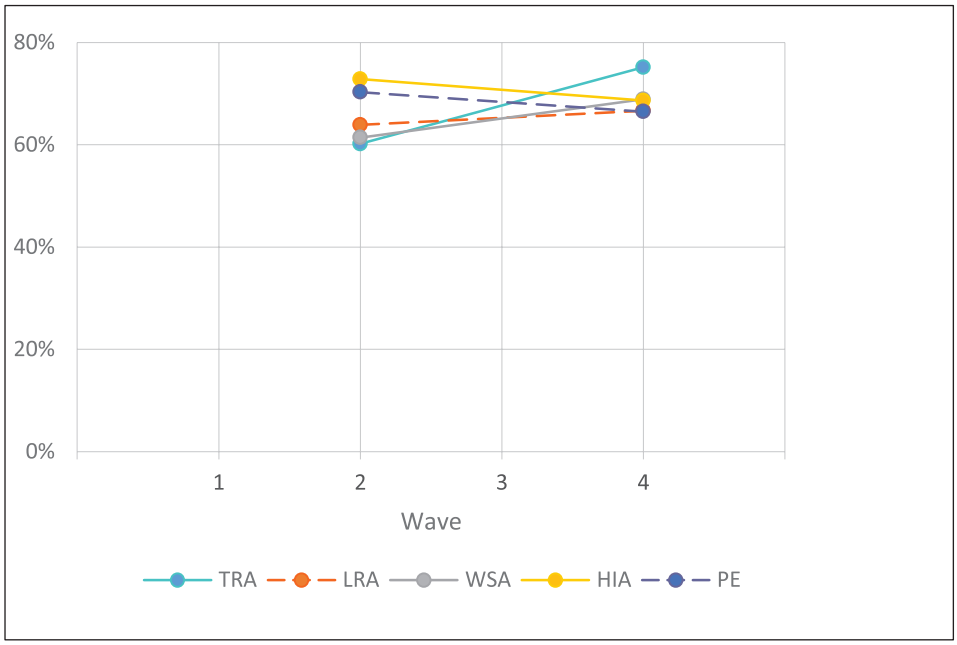
Figure 6.4: Positive mental wellbeing: percentage who said they have been feeling optimistic about the future all of the time or often in the previous two weeks (n_{wave2}=4,517; n_{wave4}=3,425).



Key findings:

- A majority of the participants in all the IATs said that they had frequently felt optimistic during the previous two weeks, but there was a mixed pattern of change over time.
- There was a moderate but significant increase in the TRAs (+6%; p=0.046) between wave 2 and wave 4 in the proportion of participants who said they had often or always felt optimistic in the previous two weeks. The slight increase among residents of the LRAs was not significant.
- Conversely, in the non-regeneration areas there were significant declines over time in the proportions in the WSAs (-6%; p=0.024) and HIAs (-5%; p=0.018) who had frequently felt optimistic in the previous two weeks.
- At wave 4, the proportion of participants who had often felt optimistic in the past two weeks ranged from 53% in the WSAs to 61% in the TRAs.

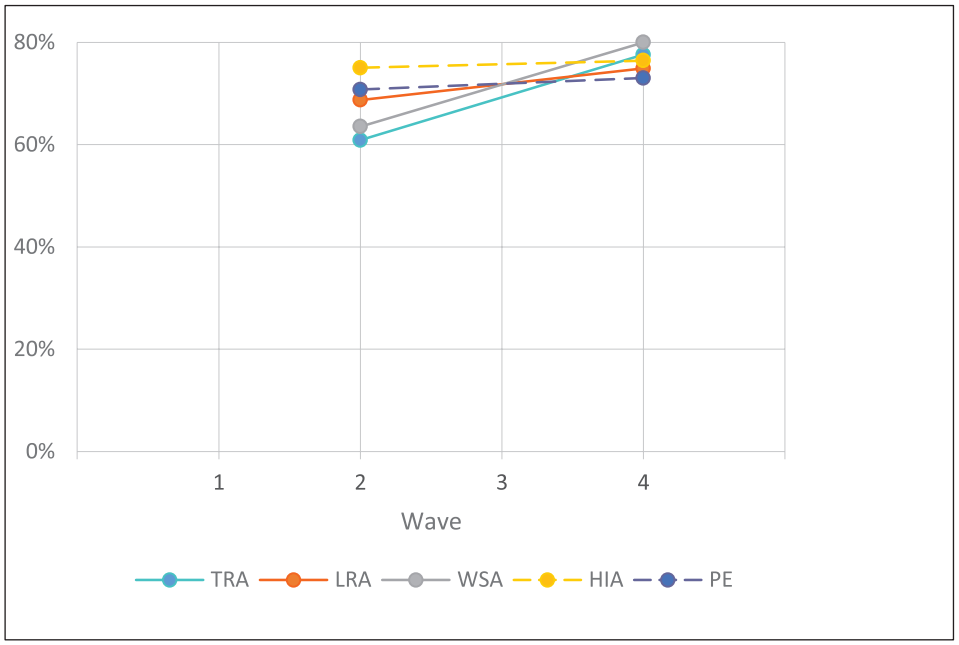
Figure 6.5: Positive mental wellbeing: percentage who said they have been feeling confident all of the time or often in the previous two weeks (n_{wave2}=4,516; n_{wave4}=3,435).



Key findings:

- A substantial majority of the participants in all the IATs said that they had frequently felt confident during the previous two weeks, but, again, there was a mixed pattern of change over time.
- There were moderate but significant increases between wave 2 and wave 4 in the proportion of participants in the TRAs (an increase of +15%; p<0.001) and the WSAs (+8%: p=0.002) who said they had often or always felt confident in the previous two weeks.
- Conversely, there was a small but significant -4% decline (p=0.039) between wave 2 and wave 4 in the proportion of HIA participants who had frequently felt confident recently.
- There was no significant change in the prevalence of frequently feeling confident among participants in the LRAs and PEs.
- At wave 4, the proportion of participants who had often felt confident in the past two weeks ranged from 66% in the PEs to 75% in the TRAs.

Figure 6.6: Positive mental wellbeing: percentage who said they have been thinking clearly all of the time or often in the previous two weeks (n_{wave2}=4,516; n_{wave4}=3,439).



Key findings:

- A substantial majority of the participants in all the IATs said that they had frequently thought clearly during the previous two weeks.
- There was a mixed pattern of change over time that differed from the other two mental wellbeing components considered above.
- There were significant increases between wave 2 and wave 4 in the proportion of participants in the regeneration areas (by +17% in the TRAs, p<0.001; and by +6% in the LRAs, p=0.013) who said they had been thinking clearly in the previous two weeks. There were also absolute increases in these proportions in the non-regeneration areas, although the change was only significant in the WSAs (+16%: p<0.001).
- There was no significant change in the prevalence of frequently thinking clearly among participants in the HIAs and PEs.
- At wave 4, the proportion of participants who had often been thinking clearly in the past two weeks ranged from 73% in the PEs to 80% in the WSAs.

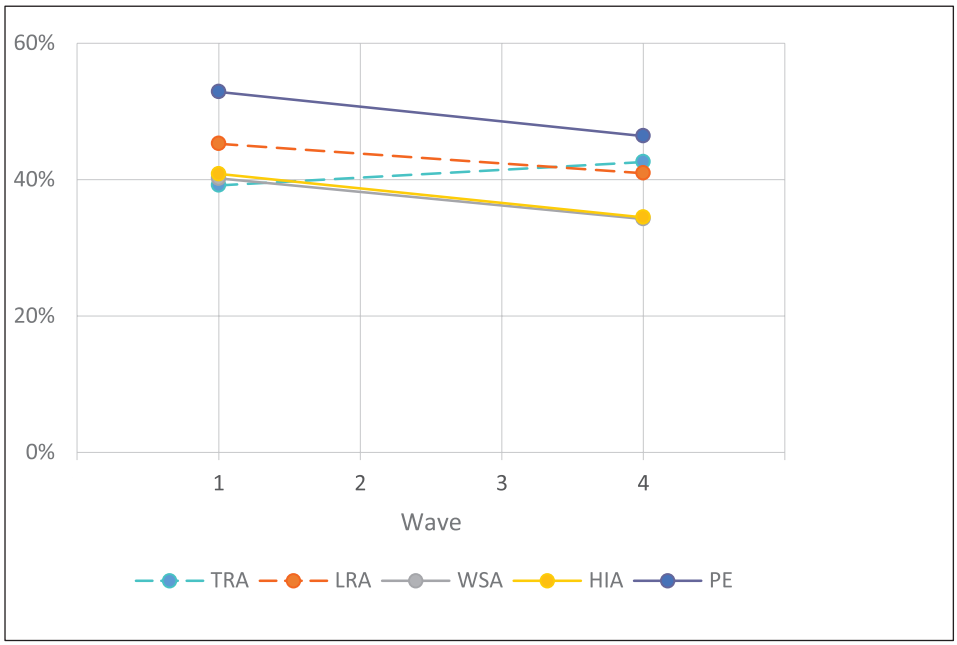
6.4. Health behaviours

Smoking

Participants were asked: Do you, or have you ever, smoked?

Possible responses were: I smoke daily; I smoke occasionally now but not every day; I've smoked in the past but now; I've never smoked. Our analysis investigated the change in the proportion of people who currently smoked any amount.

Figure 6.7: Percentage of participants who were current smokers (n_{wave1}=5,957; n_{wave4}=3,435).



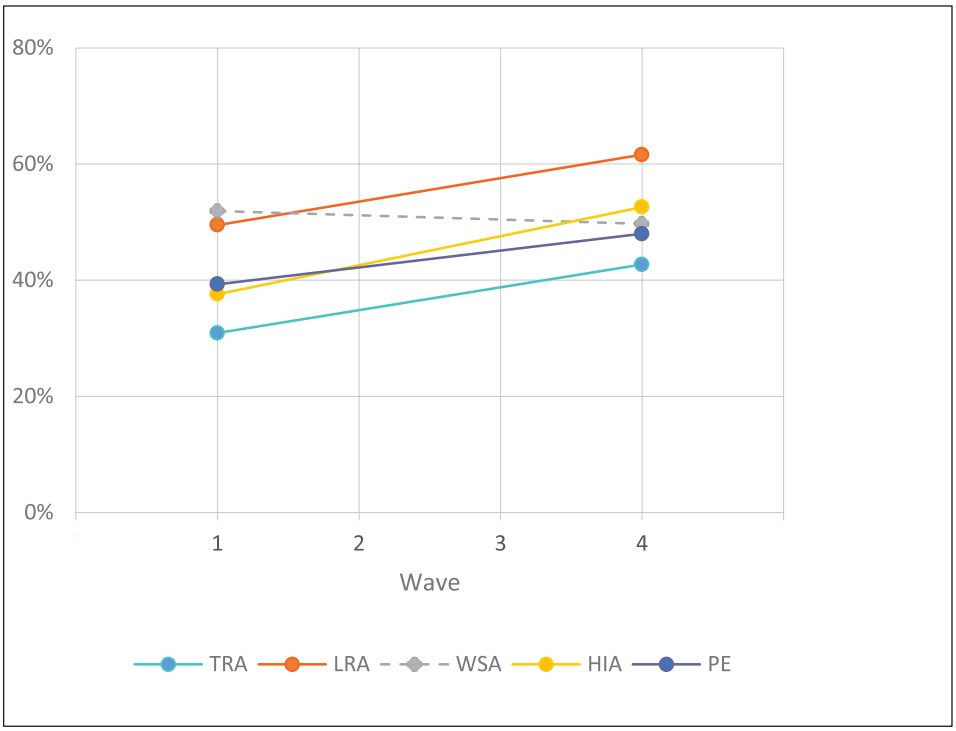
Key findings:

- The proportion of participants who reported smoking declined in the three non-regeneration areas between wave 1 and wave 4 ($p \leq 0.007$). However, there was no significant change in the proportion of smokers in the regeneration areas.
- There were similar reductions (by approximately -6%) in the proportions of smokers in the non-regeneration areas over time.
- The proportion of current smokers in all the IATs remained much higher at wave 4 (between 34% and 47%) than that for Scotland overall (21%; 2015 Scottish Health Survey), especially in the PEs.

Current smokers were then asked how they might best describe their future smoking habits.

Valid responses were: I intend to give up smoking (a) within the next 6 months; (b) within the next year; (c) but I'm not sure when; I don't intend to give up smoking; I intend to start using e-cigarettes (wave 4 only). We examined the change in the percentage of smokers who intended to give up smoking at any time (excluding those intending to start using e-cigarettes from the total).

Figure 6.8: Percentage of current smokers who intended to give up smoking at some point in the future (n_{wave1}=2,549; n_{wave4}=1,289).



Key findings:

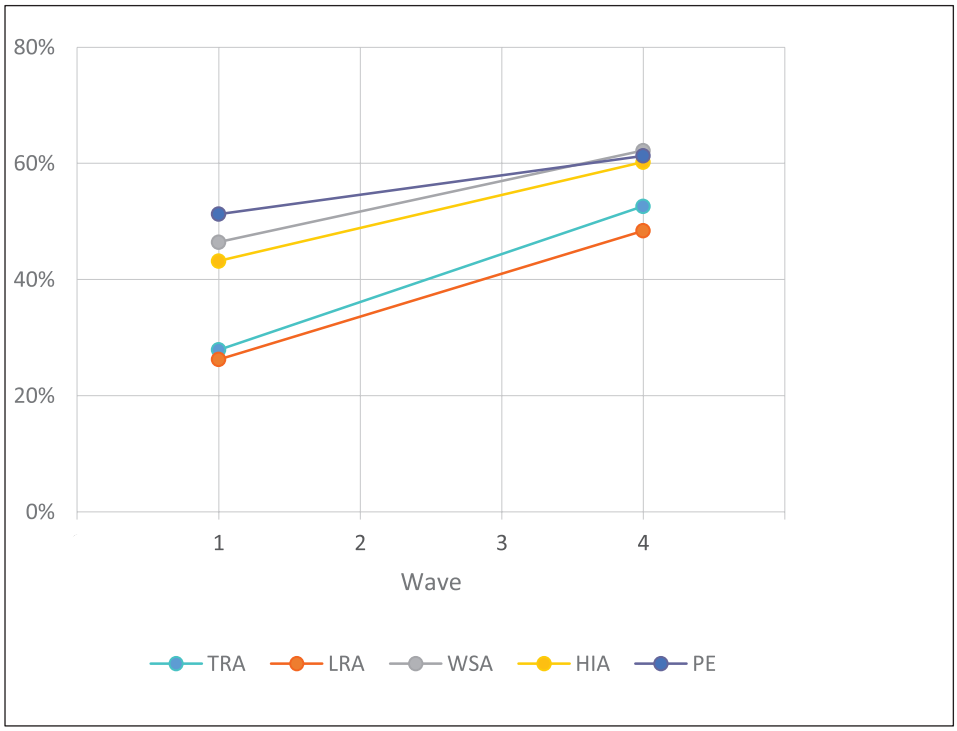
- There were significant increases between wave 1 and wave 4 in the proportions of smokers among participants in the regeneration areas and the HIAs and PEs who said they intended to give up smoking at some point ($p \leq 0.010$). There was no significant change in the intentions of smokers in the WSAs.
- By wave 4, between two and three out of five smokers in each IAT had the intention to quit smoking, the proportions having risen by +12 to +15% among those in the regeneration areas and the HIAs, and more modestly, by +9% in the PEs.
- The intention to quit smoking was most widespread among participants in the LRAs, and least prevalent among those in the TRAs.

Drinking alcohol

Participants were asked: How often do you drink alcohol?

Possible responses were: never; less than once a month; more than once a month but not weekly; 1-2 days per week; 3-5 days per week; 6-7 days per week. Our analysis investigated the change in percentage of people who drank alcohol at any frequency.

Figure 6.9: Percentage of participants who currently drink any amount of alcohol (n_{wave1}=5,956; n_{wave4}=3,431).



Key findings:

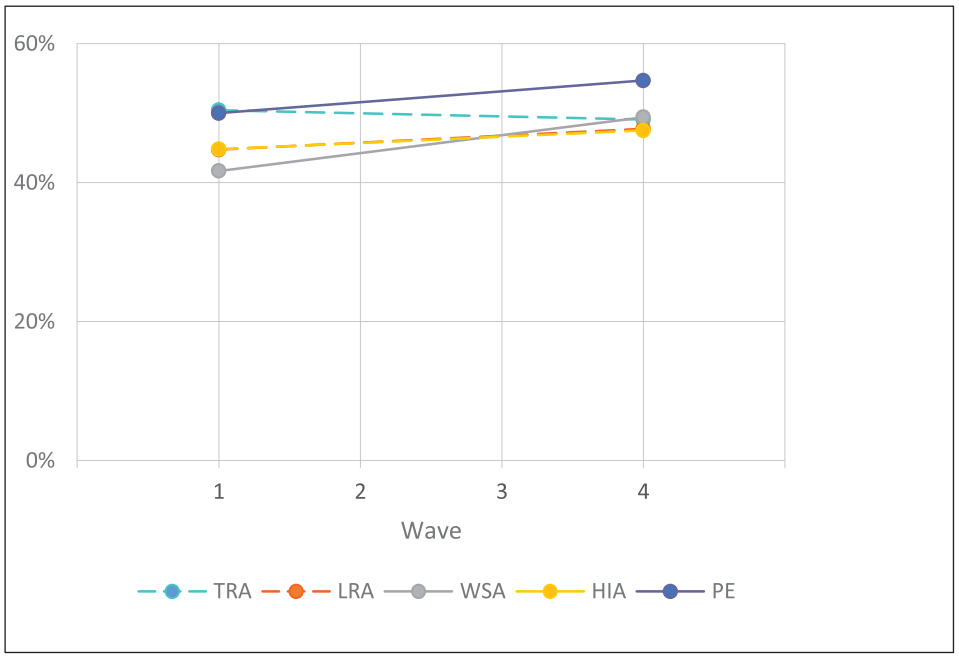
- Between wave 1 and wave 4, the proportion of participants who reported currently drinking alcohol increased significantly ($p<0.001$) across all area types. The increases in the proportions were often substantial, rising by +10 to +25%.
- By wave 4, the proportion of participants who said they drank alcohol ranged from 48% in the LRAs to 62% in the WSAs.
- The pattern of lower proportions of alcohol drinkers in the regeneration areas compared with the non-regeneration areas was maintained over time, although the gap between the two groups was considerably reduced.

Fast food meals

Participants were asked: 'On how many of the last seven days did you get your main meal from a takeaway or fast food shop or seller?'

Responses were recorded as days, from 0 to 7. We grouped the frequencies to examine changes in the percentages of people who had had a fast food main meal on one or more days.

Figure 6.10: Percentage of participants who got their main meal from a takeaway or fast food shop or seller on one or more days of the previous week (n_{wave1}=5,822; n_{wave4}=3,417).



Key findings:

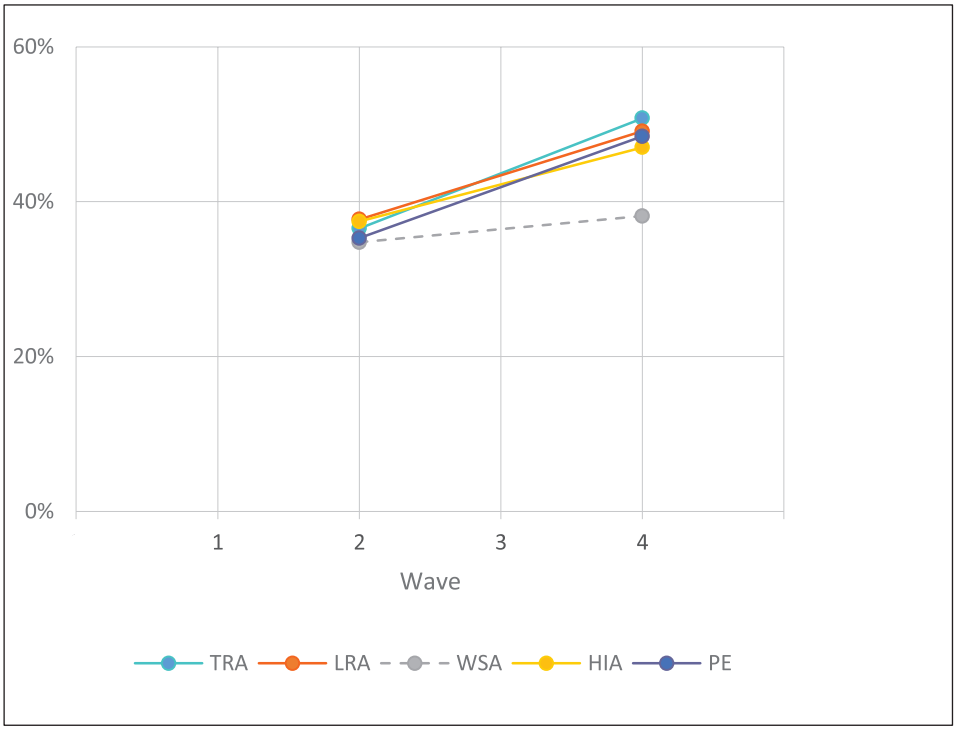
- There were significant increases of +8% and +5% in the respective proportion of participants in the WSAs and PEs who had obtained their main meal of the day from a takeaway or fast food establishment at least once in the previous week ($p \leq 0.038$). However, there was no change among participants in the regeneration areas or in the HIAs.
- By wave 4, the proportion of participants who had eaten a fast food or takeaway main meal in the previous week ranged from 48% in the HIAs to 54% in the PEs.

Neighbourhood walking

At waves 2 and 4 (but not wave 1), participants were asked: In the last seven days, on how many days did you walk in your neighbourhood for at least 20 minutes at a time?

Responses were recorded as days, from 0 to 7. We grouped the frequencies to examine changes in the percentages of people who had walked on 5-7 day.

Figure 6.11: Percentage of participants who walked in their neighbourhood for 20+ min at a time on 5-7 days of the previous week (n_{wave2}=4,515; n_{wave4}=3,451).



Key findings:

- From baselines at wave 2 of around a third (35% to 38%), the proportion of participants in the regeneration areas and in the HIAs and PEs who walked in their neighbourhood for at least 20 minutes on five or more days of the week increased significantly by +1% to +14% by wave 4. A slight increase among WSA residents was not statistically significant.
- By wave 4, regular neighbourhood walking was still a physical activity undertaken by a minority of participants in all the IATs (38-49%), except for those living in the TRAs where half the participants did so (51%).

6.5. Summary

Our summary of changes over time in health indicators across the IATs is given in Table 6.1.

Among participants across the IATs levels of self-assessed general health have declined, in contrast to the national situation where self-assessed health has remained almost unchanged over the period 2008 to 2015[45]. The level of self-assessed good health was between 2 and 5 points lower in our IATs than the average level for Scotland in 2015. More age groups exhibited statistically significant declines in self-assessed health in the WSAs and HIAs than other areas, with only one age group showing a significant drop in the PEs. Regeneration areas were in the middle regarding how many different age groups were affected by the decline in self-assessed health.

On the other hand, there has been little change over time in the prevalence of long-term physical health problems among GoWell participants. Nonetheless, increases were present for some of the younger adult groups in three of the IATs. We know from the Scottish Health Survey that multiple long-term health problems (covering both physical and mental health) are nearly twice as common in the most deprived areas of the country as in the least deprived, and that the mean number of age-standardised conditions is a third higher in the most deprived areas[46].

Experiences of mental health problems such as stress, anxiety and depression have increased across the IATs. This is reflective of the national situation where symptoms of both depression and anxiety have been rising among adults since 2008[47]; moreover, these symptoms are more common among adults in the most deprived areas compared with the least deprived, by two-fold in the case of anxiety and four-fold in the case of depression[48]. The number of participants in our survey who report suffering long-term stress, anxiety or depression (at 17% to 25% per IAT) are higher than the number of adults nationally in the most deprived areas who exhibit two or more symptoms of depression or anxiety (at 16% and 14% respectively), but lower than the number nationally who exhibit one or more symptom (27% and 29%, respectively)[49].

The findings on mental wellbeing are mixed, with residents in some areas showing improvements on some indicators (particularly clear thinking in three IATs), while other indicators in other areas deteriorated (such as optimism in two IATs) or remained unchanged over time. These are different results to the national situation where mental wellbeing as a whole is reported to be unchanged for adults over the period 2008 to 2015[50].

[45] The number of adults in Scotland rating their health as 'very good' or 'good' was 76% in 2008 and 74% in 2015. Scottish Health Survey Main Reports: 2014, Table 1.1 and 2015, Table 2.1.

[46] The Scottish Health Survey 2015 Edition. Volume 1. Main Report, para. 2.4.2 and table 2.4.

[47] Scottish Health Survey Main Report 2015, table 1.5.

[48] Scottish Health Survey Main Report 2015, paras. 1.4.4 and 1.4.2.

[49] Scottish Health Survey Main Report 2015, table 1.7.

[50] Scottish Health Survey Main Report 2015, para 1.3.1 and table 1.1.

There was also a mixed picture regarding health behaviour change. On a positive front, in most IATs, smoking prevalence has declined, intentions to quit smoking have increased, and more people are walking in their neighbourhoods on a frequent basis. The change in smoking recorded in our study areas is of a similar magnitude to nationally, where there has been a drop of -5% between 2008 and 2015 in adult smoking in Scotland[51]. The number of participants in our study who say they intend to give up smoking is a little lower than the two-thirds of smokers in Scotland who say they 'would like to quit', this being higher among the middle-aged than among the young or old[52].

In contrast, the prevalence of drinking alcohol has risen across all IATs and consumption of fast food main meals has also increased in two IATs. The trend in drinking among our survey participants runs contrary to national trends, where all indicators for alcohol consumption have declined from 2003 to 2015, including frequency and amount[53]. However, the proportions of participants in each of our IATs who drink alcohol (between 48% and 62%), although rising, are still much lower than the national rate of 84% of adults usually consuming alcohol each week.

Inequalities in health between the IATs have reduced for five of the 11 health indicators. In the case of two mental wellbeing indicators (confidence and clear thinking), the reduction in inequalities was due to improvements in the indicators in some IATs. However, in the case of general health, physical health conditions and drinking alcohol, the reduction in inequalities accompanied a worsening of the indicators in one or more IATs. Inequalities in neighbourhood walking worsened because one IAT failed to show the same degree of improvement as the other four.

Table 6.1: Summary of significant positive and negative changes in health and wellbeing factors between wave 1 (or wave 2) and wave 4.

	Intervention Area Type					Reduced
Health and Wellbeing	TRAs	LRAs	WSAs	HIAs	PEs	inequality
General and physical health						
General health	–	–	–	–	–	✓
1+ long-term health condition		–				✓
Mental health and wellbeing						
Long-term psychological problem *	–	–	–	–	–	
Optimism *	+		–	–		
Confidence *	+		+	–		✓
Clear thinking *	+	+	+			✓
Health behaviours						
Current smoker			+	+	+	
Intention to give up smoking	+	+		+	+	
Drinking alcohol	–	–	–	–	–	✓
Fast-food meals			–		–	
Neighbourhood walking	+	+		+	+	X

+, increase in positive or reduction in negative outcome; –, reduction in positive or increase in negative outcome. ✓ and X indicate reduced or increased inequality, respectively. * indicates comparison between wave 2 and wave 4.

[51] Scottish Health Survey Main Report 2015, table 5.1.
[52] Scottish Health Survey Main Report 2014, para. 3.6.1 and table 3.6.
[53] Scottish Health Survey 2015 Main Report, tables 4.1, 4.2 and 4.3.

7
Conclusion

7.1. Summary of findings

In this report, we have looked at changes in five sets of outcomes over a nine-year period across a range of housing and regeneration Intervention Area Types (IATs) in Glasgow. The outcomes cover a spectrum of the wider determinants of health as well as health and wellbeing itself. We have examined not only movements over time, for each indicator, among residents within each IAT, but also changes in inequalities between the IATs on each indicator.

We started with environmental indicators of housing and neighbourhoods, the domain where regeneration is likely to have its most direct impact. Here, we found broad improvements in environmental indicators over time, though more consistently in the case of housing than neighbourhoods. Indicators of neighbourhood physical environmental conditions exhibited more widespread improvements over time than did indicators of social problems in public space and of the quality of some people-centred amenities. Inequalities in both housing conditions and antisocial behaviour problems reduced between the IATs over time. Regeneration areas experienced the most consistent improvements across the indicators examined, followed by the Peripheral Estates (PEs), although all IATs improved on a majority of indicators.

There was far less positive change across the IATs on indicators of the social environment. Indicators of belonging, trust and social contact declined over time in several IATs. Improvements in social indicators were more consistent for the TRAs than any other type of area. Inequalities in belonging and social contact reduced between the IATs over time, in the latter case as a result of reductions in contact in some areas. The Peripheral Estates (PEs) and Housing Improvement Areas (HIAs) exhibited the highest levels of trust at wave 4, with the PEs also having the highest levels of social contact.

In terms of psychosocial factors, we found widespread improvements over time on most indicators of status and on all indicators of empowerment. The perceived external reputations of the study areas were resistant to improvement across the IATs, and in fact worsened in the case of three IATs. The Wider Surrounding Areas (WSAs) exhibited improvement on fewer psychosocial indicators than the other types of study area. Inequalities between the IATs reduced for most indicators of status, and for all indicators of empowerment. On the indicator of external area reputation, inequalities widened over time, with Peripheral Estates (PEs) having the highest percentage of residents who considered their area to have a negative reputation at wave 4.

Indicators of employment showed consistent improvement in two of the IATs (TRAs and WSAs) with little change elsewhere. Inequalities between the IATs reduced in the case of women's employment rates and numbers of workless households. On indicators of poverty, there was fairly widespread improvement in the affordability of housing costs, especially for owner-occupiers in the study areas, but a mixed experience in respect of other household bills: the affordability of food and fuel improved overall in the regeneration areas, but worsened in the Housing Improvement Areas (HIAs) and Peripheral Estates (PEs). In fact, the PEs experienced increases over time in both worklessness and in difficulties paying for food and fuel. Inequalities between the IATs reduced over time on all measures of the affordability of household budget items.

Health outcome indicators showed the least improvement over time. There was widespread deterioration over time on key indicators of both general health (self-assessed health status) and mental health (reported long-term problems of stress, anxiety and depression). Indicators of mental wellbeing improved in some areas (between one and three IATs) but worsened or remained unchanged in others. On health behaviours, there were widespread improvements in walking (in four IATs) and smoking (in three IATs) but also an increase in drinking (all five IATs) and use of fast food for main meals (two IATs). Inequalities in health reduced in respect of around the half the indicators examined. The Transformational Regeneration Areas (TRAs) had the best result for five of the health indicators at wave 4, and the Peripheral Estates (PEs) had the worst result on five of the indicators.

7.2. Implications

This comparison of indicators over time for the five Intervention Area Types (IATs) provides an initial indication of where housing-led regeneration may have had impacts upon quality of life for people living in these areas. The findings suggest that regeneration may have had the most consistent and widespread impacts upon housing and neighbourhood environments, and upon the psychosocial factors of status and empowerment. This is likely to be related to the visibility and experience of those changes and to the processes through which those improvements are delivered to individuals and communities.

These benefits however are seen not only in the main regeneration areas, but in the other IATs as well, perhaps reflecting the fact that processes of physical improvement are occurring to a lesser extent across many of the city's most deprived communities. The Wider Surrounding Areas (WSAs) stand out as having the weakest set of empowerment indicators, either showing no improvement over time or the slowest rate of improvement. This may reflect how the residents in these areas have experienced change over time, perhaps being affected by clearance and demolition processes without having the same degree of engagement with what is going on as people who live in the TRAs.

The findings on social indicators appear to suggest that those people who live in the partly-reconstructed main regeneration areas (TRAs), often in new housing, have seen more improvements in social relations than can be found elsewhere, and it may be the case that this is a product of the 'pioneering' experience they are going through in residing in newly created neighbourhoods. On the other hand, looking elsewhere, it would seem that the management, development and provision of services and amenities in most poor communities do not appear to have been capable of countering reductions in social contact and weakening feelings of belonging. However, the fact that the Peripheral Estates (PEs), and to a lesser extent the Housing Improvement Areas (HIAs) have the highest values on most social indicators at wave 4 is worthy of further investigation to see whether this could be a product of factors such as residential stability, a strong place-based identity, and the endurance of community infrastructure in these areas.

Improvements across the employment indicators in two of the IATs, the Transformational Regeneration Areas (TRAs) and the Wider Surrounding Areas (WSAs) could be parly due to the presence of migrants, particularly if they have changed their status over time (e.g. been given leave to remain) and subsequently obtained employment. For the TRAs, also, the decline in population size means that relatively small changes in absolute numbers in employment can have a relatively large impact on the proportions. Further investigation would be required to establish whether regeneration itself, or employment services, have

contributed to improvements in employment in these areas. The improved employment situation in the Wider Surrounding Areas (WSAs) also suggests that changes in status for asylum seekers and refugees, and the experience of migrants over time, may also have contributed to increased employment and reduced worklessness.

On the other hand, the patterns of change in poverty-related indicators suggest that regeneration may have helped with household costs (fuel, food and housing costs) in the regeneration areas (TRAs and LRAs), as similarly consistent improvements are not see elsewhere. However, non-housing costs are still more problematic for residents of the regeneration areas than for people living elsewhere. Nevertheless, the affordability situation for non-housing costs has been worsening in the non-regeneration areas (HIAs and PEs), possibly reflecting the impacts of low wage growth and austerity since the financial crash, and the situation also needs close monitoring in those areas.

The findings on health indicators are disappointing, especially given some of the positive findings on other factors noted above. There is no readily apparent link between residential environmental improvements and gains in general, physical or mental health. Our findings here concur with the lack of evidence for health impacts found in past reviews of regeneration research, and with the knowledge that health is influenced by factors operating throughout the life-course, not just those present at a particular point in time. Our findings run counter to modest relative improvements in general and mental health found in the evaluation of the New Deal for Communities programme in England. It should be borne in mind, however, that the health context in Glasgow is particularly challenging, relating back to periods of deindustrialisation and reflecting social and economic inequalities within the West of Scotland. There are, however, some positive messages. The improvements in mental wellbeing indicators in the TRAs suggest that the effects of large-scale regeneration on housing and neighbourhoods, and on feelings of status and empowerment, may be reflected in more positive wellbeing for residents. Thus, regeneration appears to be positively affecting how people feel, an important aspect of quality of life, more than it is impacting on underlying health. However, one area where regeneration appears to be having little impact is on the perceived external reputation of deprived areas, something which may affect the long-term prospects of the communities. This is an aspect of regeneration strategies that requires more attention.

With regard to health behaviours, while rates of smoking remain generally very high in communities such as those studied here, there have been reductions over time (albeit slower than the national rate of improvement). Moreover, there are increasing numbers of smokers who want to quit, and a concerted drive to support people in this regard in areas with the highest rates of smoking may be worthy of consideration. The widespread improvements in rates of regular neighbourhood walking are also to be welcomed. This is a trend we need to better understand, so as to ensure that whatever factors have helped bring this about are supported and maintained, in case the gains might be lost in future. Two issues that are simultaneously health behaviours and antisocial behaviour problems – drinking and drug taking – have either worsened, or not shown consistent improvement over time. These are issues which between 30% and 40% of residents in all the IATs identified as a problem at wave 4. Finding ways to tackle these issues as community matters as well as individual choices may do a lot to improve health and quality of life in the study areas.

7.3. Further analyses

This report is our first look at outcomes in our study areas over the interval between our first and fourth surveys. As well as providing an overview of how the study communities have changed over time, it also gives us indications of where to pursue further investigation. Our current plans for further analysis comprise three parts. First, we will examine spatial inequalities in health outcomes over time, controlling for the personal characteristics of individuals, which vary across the study areas. Second, we will compare a range of outcomes over time for different residential groups including: those who have remained living in regeneration areas; incomers to regeneration areas; those who relocated out of regeneration areas to live elsewhere; those who have remained in their homes in non-regeneration areas; and those who have moved house voluntarily. Third, we will investigate pathways to health and wellbeing outcomes for study participants to consider the different contributions of environmental, social, psychosocial and economic factors. These further analyses form part of our assessment of whether housing-led regeneration can help to reduce health inequalities.

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