


GoWell is a collaborative partnership between the Glasgow Centre for Population Health, the University of Glasgow and the MRC/CSO Social and Public Health Sciences Unit, sponsored by Glasgow Housing Association, the Scottish Government, NHS Health Scotland and NHS Greater Glasgow and Clyde.

A large graphic of a stylized human figure. The head is a teal circle containing the title. The torso is a grey shape, and the lower body is a teal shape. The date 'April 2011' is located in the grey torso area.

The effects of
high-rise living
within social rented
housing areas
in Glasgow

April 2011

GoWell is a planned ten-year research and learning programme that aims to investigate the impact of investment in housing, regeneration and neighbourhood renewal on the health and wellbeing of individuals, families and communities. It commenced in February 2006 and has a number of different research components. This paper is part of a series of Briefing Papers which the GoWell team has developed in order to summarise key findings and policy and practice recommendations from the research. Further information on the GoWell Programme and the full series of Briefing Papers is available from the GoWell website at: www.gowellonline.com



THE EFFECTS OF HIGH-RISE LIVING WITHIN SOCIAL RENTED HOUSING AREAS IN GLASGOW

Summary

What We Did

We used the GoWell Wave 1 survey data from 2006 to investigate differences in residential, social and psychosocial outcomes between people living in high-rise flats (defined as dwellings in buildings of six or more storeys) and people living in other types of flats or in houses.

The research analysed the views of 5,151 British citizen respondents to the survey, of whom 27% lived in high-rise. In the analysis, we controlled for the effects of individual characteristics, length of residence and level of area deprivation. In order to compare like-with-like, we excluded from the analysis of housing outcomes anyone who said they had had improvement works to their home in the past year.

What We Found

Housing outcomes were all more likely to be worse for occupants of high-rise, compared to people in other types of dwelling. The most common problems, all of which were two-to-three times more common in high-rise, were poor condition (internal and external), poor security and poor space.

The prevalence of poor neighbourhood outcomes was often no different for high-rise occupants than for other residents. However, occupants of any type of flat were more dissatisfied with their neighbourhood than people living in houses. The bigger difference was that perceptions of anti-social behaviour were worse for high-rise occupants than for anyone else.

Several social outcomes were worse for high-rise occupants, including lower levels of perceived community cohesion (issues of belonging and trust in neighbours), available social support and social contact. Almost three-in-ten high-rise occupants met up with relatives or friends less than once a month; such relatively low levels of social contact was twice as common among high-rise occupants compared with people living in houses.

All nine psychosocial outcomes we examined were worse for occupants of flats compared with people living in houses, and some were even worse among high-rise occupants compared with those in other types of flats. High-rise occupants were less likely than anyone else to derive recuperative psychosocial benefits from living in their homes (such as safety, retreat and privacy), and less likely to feel in control at home or empowered as a community.

What This Means

In the context of Glasgow at least - a city with extensive deprivation, poor health and a poor climate - lower income groups would be better off not living in high-rise blocks and this might be the preferred outcome where-ever redevelopment is possible.

If, however, high-rise blocks are retained and subject to physical renewal, this should help with many of the housing-related problems experienced by residents (though it will not always be technically or financially feasible to do this). However, on its own physical renewal may not be sufficient to produce a full range of better outcomes for residents.

Our findings suggest that in addition to physical renewal high-rise blocks and estates may require both a greater intensity and resident engagement in management processes to tackle issues of control and empowerment, as well as community level interventions to help develop a greater sense of cohesion, contact and trust among residents.

Regeneration for high-rise areas should, on the back of physical renewal, also include image enhancement strategies to improve perceptions of high-rise blocks and estates within society in order to enable more residents to derive more status-related psychosocial benefits from their homes and neighbourhoods.

THE ISSUE OF HIGH-RISE

Although high-rise can be successful in certain situations, and there are cities and societies where living in high-rise is the norm, much of the research on high-rise over several decades has identified a range of negative effects of high-rise living. These effects are in five broad areas, and have been observed in a range of published studies in a variety of national and social settings.

Crime, vandalism and informal social control: levels of crime, vandalism and other 'environmental incivilities' have been associated with a number of design characteristics such as building height, block size, extent of shared space, and number of entrances and exits from buildings. [1-2]

Mental health effects: mental health indicators have been found to be worse, and use of doctors for psychological reasons higher, among people living in high-rise. A number of causal pathways for these outcomes have been identified including: being unable to avoid the habits of others in close proximity; feeling isolated in tall buildings; and distancing from the restorative effects of natural settings and views. [3-5]

Social effects: high-rise occupants have been found to have less familiarity with neighbours and lower levels of social support than other people. This has been variously attributed to the effects of high turnover of residents in high-rise, the deterioration of public space on estates, and the inability to regulate social interaction, which causes people to socially withdraw. [3, 6-7]

Impacts on families and children: negative effects upon families of living in high-rise has been found to include heightened family conflict, parental isolation, and behavioural and development difficulties among children. Some of these effects are the result of parents keeping their children indoors due to concerns about not being able to supervise them in a high-rise environment. [8-10]

Physical health effects: there is evidence that high-rise living can lead to more respiratory problems, headaches and short illness episodes, sometimes referred to as 'sick building syndrome'. However on the other hand, high-rise flats have been found to be more energy efficient than other dwellings, raising the possibility of better health outcomes if such buildings are well constructed and maintained. [11-13]

From the published research, we can identify those characteristics of high-rise housing which are more likely to result in such negative outcomes, ranging from aspects of the built form, characteristics of the estates in which high-rise is located, and the management of the buildings. These characteristics are summarised in Table 1.

Table 1: Detrimental Dimensions of High-Rise

Dimension	Component	Aspect Having Negative Effects
Built Form	Dwellings	Poor construction: damp; low thermal qualities; poor sound insulation.
		Insufficient internal space; lack of privacy.
	Height	Increasing height: fear of accidents; feelings of loneliness.
	Towers	'Enforced communality' in use of facilities.
Poor aesthetics; visually unappealing.		
Estate Context		Prominent and stigmatising built form: low demand for housing.
	Size	Oppressive environment due to number of towers.
	Density	Large number of residents on estate and within each tower: inability to know neighbours and exercise informal social control.

Dimension	Component	Aspect Having Negative Effects
	Amenities	Lack of sufficient amenities on estates: reduced use of estate and less social interaction; feelings of social exclusion.
	Layout	Lack of defensible space: reluctance to engage with others in public. Hidden spaces and poor sight-lines; lack of grid layout of streets: fear of crime and lack of sense of safety.
	Materials	Harsh materials. Lack of 'nature' / green spaces.
	Location	Isolated location disconnected from the rest of the urban area.
Management	Maintenance	Expense and poor maintenance of buildings.
	Allocations	Used to house poor, vulnerable households with multiple social needs. Results in concentration of problems and pressure of high demand on social and other support services.
	Staffing	Insufficient local management presence for the number of residents sharing the space(s) of the estate.

THE SITUATION IN GLASGOW

Glasgow was in the vanguard of modernist, high-rise housing developments from the late 1950s to the early 1970s, erecting high-rise blocks on gap sites and in redevelopment areas around the city. [14-15] By the time of the housing stock transfer to the Glasgow Housing Association (GHA) in 2003 around 10% of the city's housing stock was in high-rise buildings of six storeys or more. Whilst the majority of high-rise in the city is now under the control of GHA, there are also high-rise blocks managed by other Registered Social Landlords and, more recently by private developers, particularly in river-side developments.

The demolition of high-rise social housing in the city began in the 1990s under the city council's direction, and has regained momentum since stock transfer. GHA's plans for social housing in the city included the demolition of up to 19,000 dwellings by 2015, [16] including many high-rise flats, particularly in regeneration areas, but also many lower-rise flats. Some high-rise blocks are considered to operate successfully and have been comprehensively improved, whilst others still have an uncertain future. Since stock transfer, GHA has demolished over 5,000 high-rise units, out of an

estimated city total of 25-30,000 (depending on the definition used). Although there is an active demolition programme, it is also likely that many high-rise blocks will remain in use and be improved rather than demolished and replaced by other built forms.

The task of successfully managing high-rise housing in the social rented sector is made more challenging in Glasgow by a number of factors:

Deprivation: Income deprivation is higher than the national average in the city of Glasgow, and is higher still in regeneration areas where high-rise dominates, at over three times the national rate in some areas.

Poor health: The city's population is generally relatively unhealthy, with low life expectancy and poor health behaviours in many areas. In regeneration areas, again, mortality from heart disease, for example, is 2.5 times the national rate. [17]

Climate: A wet, windy and cloudy climate exacerbates problems in high-rise developments of water penetration, cold temperatures, wind-buffeting and channelling, and the shadowing effects of buildings.

It is against the background of this situation in Glasgow that the question of what kind of residential and social outcomes are possible for occupants of high-rise flats in the social rented sector becomes important.



OUR STUDY OF HIGH-RISE

Sample

We have used the GoWell Wave 1 survey from 2006 to investigate the effects of high-rise living. The survey was conducted in 14 study areas across the city, all with a substantial social housing presence, ranging from 40% to 95% in any one area. Seven of the 14 study areas are dominated by high-rise housing: six areas which are designated for area regeneration, and one area designated for housing improvement investment¹.

We have restricted the analysis to British Citizens in order to remove any confounding effect from the fact that migrants in our study areas are concentrated in high-rise accommodation. This gives a total sample of 5,151 respondents. Of these, 27% lived in high-rise flats, 37% in other kinds of flats, and 36% in houses. When examining housing outcomes, we also excluded from the analysis, for both high-rise and other dwelling types, anyone who reported that they had received housing

¹ For further information on the location of the GoWell study areas and their categorisation by type of policy intervention see www.gowellonline.com.

improvement works to their home in the past year; this was because we suspected that such works might systematically differ in incidence or nature between high-rise and other dwellings and we wished to make a like-for-like comparison.

Controls

Our analysis examines the prevalence of negative or 'worse' outcomes among people living in the three different types of dwellings after controlling for the following factors: personal characteristics of respondents (age, gender, housing tenure, household type, employment status and income); length of residence in the home and in the area; and level of area deprivation, using an estimate of income deprivation at post-code level. [18]

We control for variables related to individuals for two reasons. First, we allow for the effect upon people's reported outcomes of the fact that they themselves may have difficult or vulnerable circumstances which affect their perceptions of the quality of their residential situation. Second, high-rise estates are often transient places where people move in and out on a regular basis. Thus, by controlling for length of residence we allow for the effect upon reported outcomes that might stem from the fact that people in high-rise may not have lived there very long, and thus not have developed social connections in the area.

We also need to take into account the nature of the areas in which social housing is located, and in particular address the issue that high-rise may be located in the most deprived areas. In such circumstances, negative reported outcomes may result for the characteristics of the area itself, rather than from occupying high-rise, with the two effects being conflated.

In order to do this, we had to construct our own measure of area deprivation because the GoWell study areas are not standard statistical units. Using a measure of level of income deprivation within an area, akin to that used in the Scottish Index of Multiple Deprivation, we found that all our study areas were very deprived with rates of income deprivation of between 1.8 and 3.8 times the national average. [18] We therefore divided our study areas into two groups: the most deprived areas (with rates of income deprivation at least 1.6 times the Glasgow average) and the slightly less deprived (1.0 – 1.5 times the Glasgow average). This adds a further important dimension to the analysis, as those study areas dominated by high-rise do not all fall into the most deprived grouping; further, the most deprived grouping includes the two peripheral estates in our study, which are low-rise housing locations.

Outcomes

We looked at three kinds of outcomes:

Residential outcomes: including housing and neighbourhood satisfaction and ratings of dwelling and neighbourhood quality. For dwelling outcomes, we excluded from the analysis anyone who had received housing improvement works in the past year, in order to achieve a 'like-for-like' comparison.

Social outcomes: including feelings of safety in the area at night, community cohesion (such as belonging and trust in others), social contacts, and social support.

Psychosocial outcomes: including feelings of control, privacy and status derived from the home and the neighbourhood.

Analyses

Four sets of analyses were conducted:

- A comparison of high-rise flats with other flats and with houses.
- A comparison of high-rise flats with other flats, both restricted to those on the 5th storey or below. This enables us to see whether the built form of the tower block has any effects.
- A comparison of those living in tower blocks, divided into those on the 6th floor or above with those on the lower storeys (5th floor or below), to see if outcomes are any different for those higher up and lower down within towers.
- A comparison of high-rise flats with other dwelling types combined, separately for adult households, families with dependent children and older persons. This enables us to check whether outcomes in high-rise are different for different types of household.



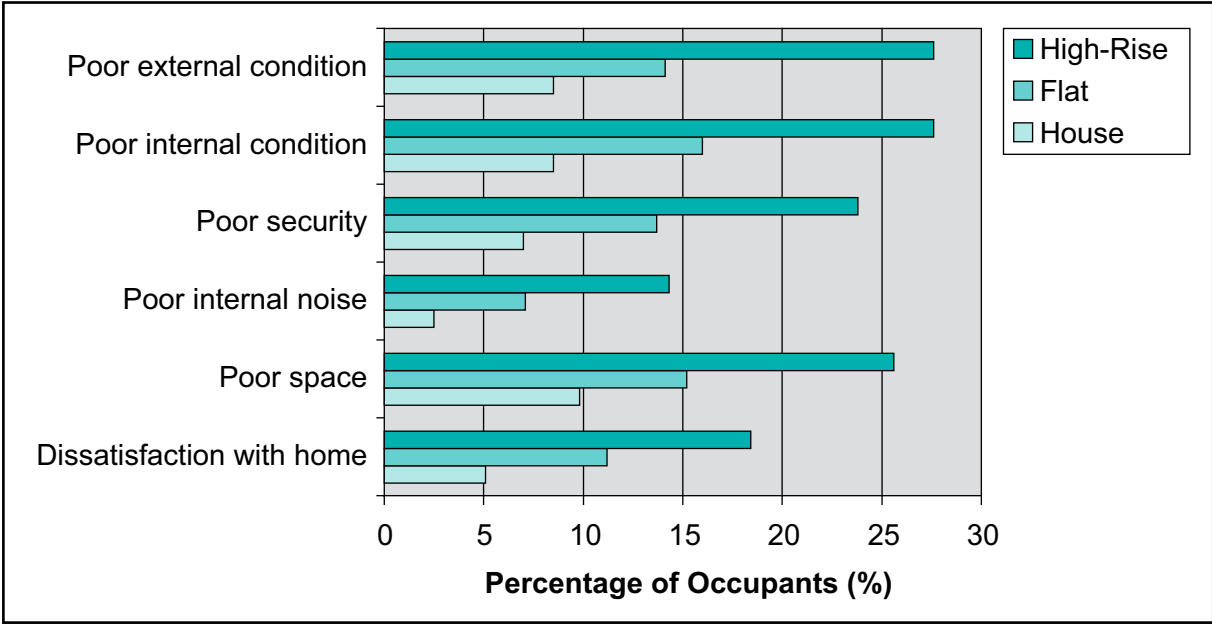
WHAT WE FOUND

Housing outcomes

All the negative housing outcomes we examined were significantly more common among high-rise occupants than among occupants of other flats and houses. Over a quarter of high-rise occupants, who had not had any very recent works to their homes, identified problems with the internal and external condition of their homes.

Typically, the odds of poor housing outcomes were two-to-three times higher for high-rise occupants than for occupants of houses. However, internal noise problems were five times more likely to be reported by high-rise occupants than occupants of houses, once other personal factors, length of residence and area deprivation were controlled for (Figure 1).

Figure 1: Residential outcomes: Housing

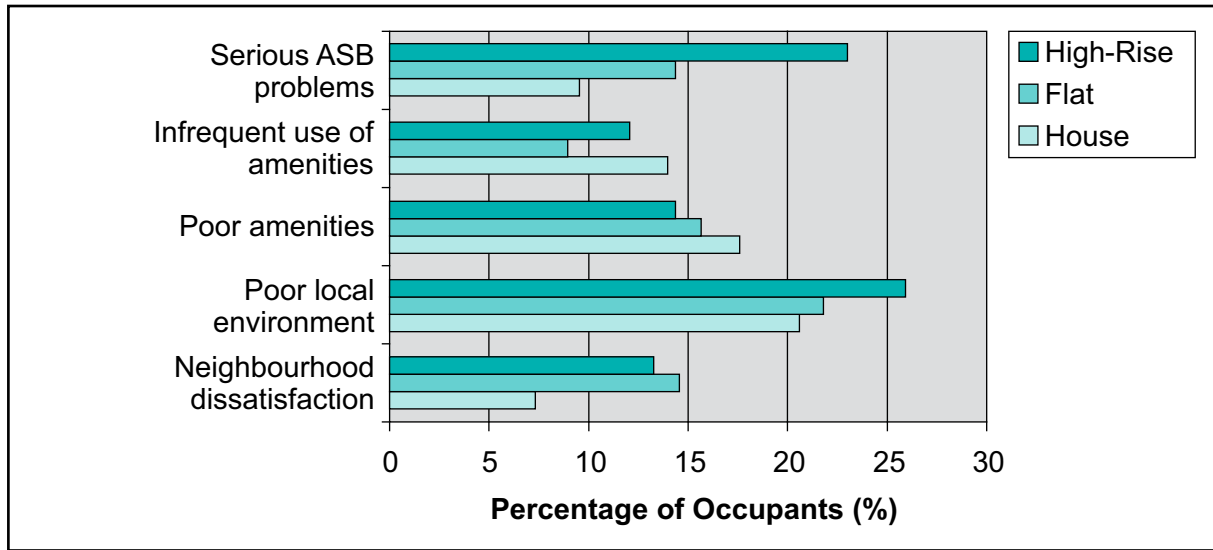


Neighbourhood outcomes

Controlling for length of residence in the area, most of the negative neighbourhood outcomes we examined were no more common among occupants of high-rise than among occupants of other dwelling types. The two exceptions were neighbourhood dissatisfaction and the presence of serious anti-social behaviour problems in the local area (Figure 2).

Neighbourhood dissatisfaction was twice as common among both high-rise and other flat occupants compared with occupants of houses. The odds of high-rise occupants identifying a number of serious anti-social behaviour problems in their area were nearly three times higher than for occupants of houses, and also higher than among occupants of other flats, after controlling for other personal factors, length of residence and area deprivation.

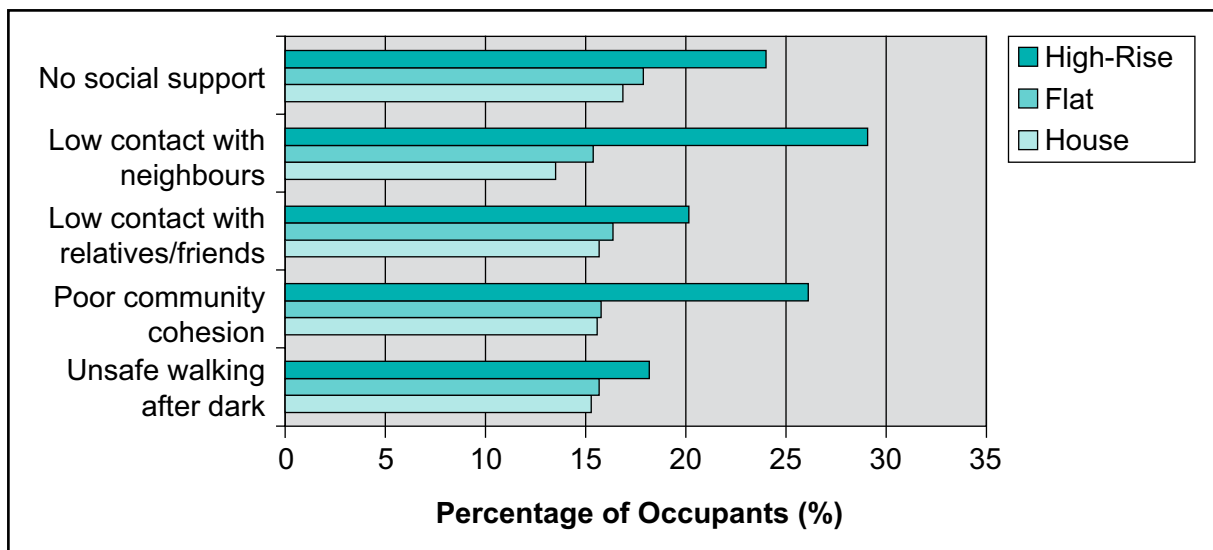
Figure 2: Residential outcomes: Neighbourhood



Social outcomes

Three of the five social outcomes we examined were worse for high-rise occupants than for both occupants of houses and occupants of other flats (Figure 3). Around a quarter of high-rise occupants had low levels of contact with their neighbours, no available social support outside the immediate household, and a poor sense of community cohesion. These three negative outcomes were between 1.5 and 2.0 times more common among high-rise occupants compared with occupants of houses, once other personal factors, length of residence and area deprivation were controlled for.

Figure 3: Social outcomes

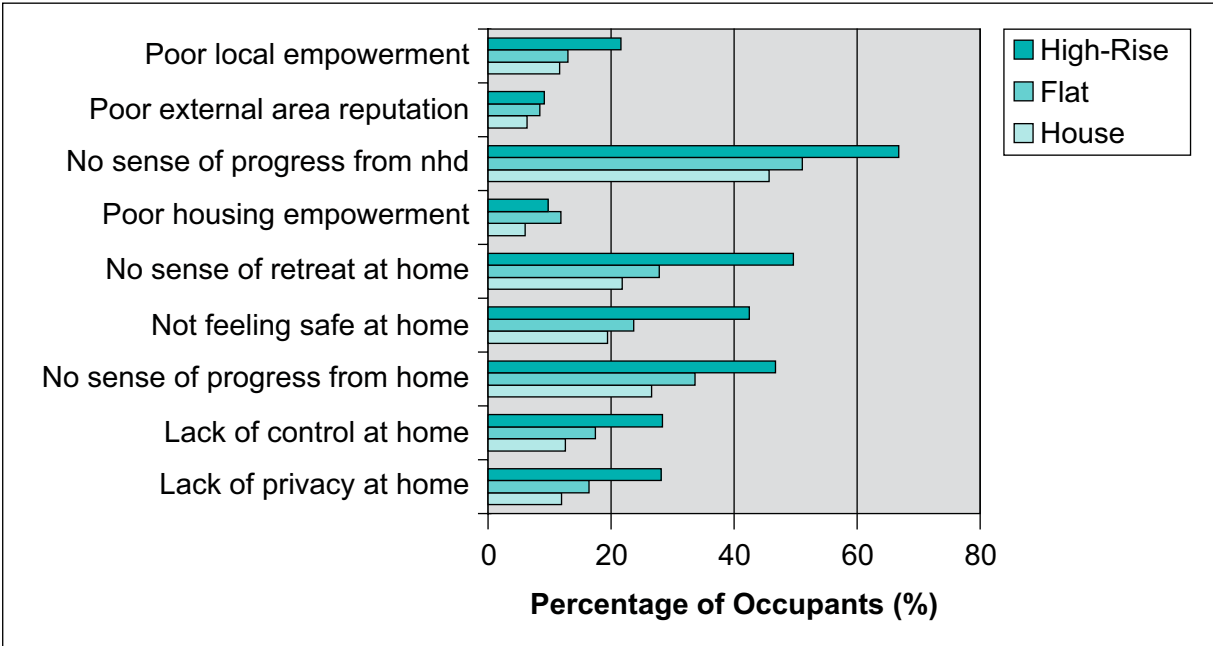


Psychosocial outcomes

All the psychosocial outcomes we examined were more often worse for occupants of flats compared with houses, and most were also worse for high-rise occupants compared with occupants of any other dwelling type (Figure 4). Two-thirds of high-rise occupants did not feel any sense of personal progress from living in their neighbourhood; half did not get a sense of retreat at home (that they can get away from the pressures of everyday life at home); and 40% of high-rise occupants did not feel safe in their homes.

In the case of five of the nine psychosocial outcomes, occupants of high-rise dwellings were twice as likely to report a negative outcome as occupants of houses, after controlling for personal factors, length of residence and area deprivation.

Figure 4: Psychosocial outcomes



Variations by household type

There were variations in outcomes by household type, and it was not always the case that outcomes were worse for those in families.

Respondents in adult households were affected by living in high-rise for more outcomes than any other household type. They were more often affected in social terms and in psychosocial terms by living in high-rise than those in other household types. Issues of safety after dark and area reputation particularly affected respondents in adult households.

Respondents in family households were negatively affected by living in high-rise for all the housing outcomes and most of the social outcomes, the latter indicating an isolating effect of high-rise on adults in family households. Conversely, respondents in family households were the least often affected by high-rise living in terms of psychosocial outcomes.

Respondents in older person households were the least affected by living in high-rise in terms of neighbourhood outcomes and social outcomes.

The effects of storey height

We found a few outcomes that were better for those people living higher up in high-rise blocks than lower down, namely neighbourhood satisfaction, contact with relatives and friends, availability of social support, and perceptions of community cohesion. These things may reflect greater stability among occupants of higher-storeys, as well as a possible insulating effect of living higher up and further away from the surrounding community.



LIMITATIONS

There are always limitations to what a particular study or set of analyses can achieve. In this case, we would highlight several limitations to what we were able to do with our data. First, it would be possible, with the use of landlord investment information, to take better account of improvement works to dwellings in the recent past (either more accurate information on works or over a longer period of time). Even with better data, however, this is a difficult issue to resolve, as one of the criticisms of high-rise mass housing estates has been that both housing management and maintenance have been inadequate to the task (i.e. not intensive enough) [19], so it is not clear that one should control for such factors in examining the effects of high-rise rather than treating dwelling quality and the works which sustain it, as an outcome.

Second, although we have taken into account the level of area deprivation, this was only in income terms, not in respect of other deprivation domains such as health, crime or access to services and amenities. Again, however, it is debatable whether further area deprivation controls would be desirable, as some of these wider area deprivation effects may be the product of a high-rise environment and thus should be reflected in outcome measures rather than be used as controls.

We were not able to take into account the composition of the resident population within each high-rise block - though to do so would also entail us having to work out how to measure and control for the equivalent resident composition for those people living in other flats and houses in street situations. The fact that we were not able to do this might affect our findings because the high-rise blocks in our study areas contain

disproportionate numbers of asylum seekers and refugees, a factor which may affect the British citizens' assessments of their residential and community circumstances.

Lastly, there may be an effect from the clustering of high-rise blocks, with outcomes potentially being worse where blocks are concentrated in high-rise estates compared with outcomes in single or paired blocks that do not on their own form an entire neighbourhood environment. This is an issue we would be interested to investigate if possible, as we might learn lessons relevant to the restructuring of current high-rise estates, or to the future provision of flatted accommodation.



THE IMPLICATIONS OF OUR FINDINGS

Our findings of negative outcomes for occupants of high-rise reflect the performance of the buildings, neighbourhoods and management and maintenance arrangements in recent decades, as they all contribute to the range of outcomes we have examined.

An important issue therefore is the extent to which the future improvement of high-rise blocks in the city can deliver better outcomes for residents. Physical renewal might be able to reduce problems of noise, security, poor condition and appearance for some blocks, but perhaps not in all cases.

However, in addition to physical improvements, there appears to be a case for greater intensity and resident engagement in the management of high-rise blocks and estates to help tackle problems of anti-social behaviour and the weaker sense of control and empowerment among residents. Furthermore, high-rise problems are not just issues of housing management. Our findings suggest that community-level social interventions may also be required to enhance social contact, social support and residents' sense of community cohesion and trust, which appear to be eroded or inhibited by living in high-rise environments.

High-rise in the social rented sector also presents problems of culture, status and reputation. Psychosocial outcomes relating to control and status are shown to be worse for occupants of high-rise compared with occupants of other types of dwelling in social housing areas. Problems that stem from the density and enforced communality of high-rise are inherent to the built form and may be difficult to eradicate.

High-rise may suffer from stigma, over and above any stigma relating to social housing areas themselves, which impacts upon the psychosocial benefits residents can derive from their homes and neighbourhoods. A challenge therefore is to see whether, on the back of physical improvements, the image of high-rise can be shifted towards being seen as 'decent homes', 'sustainable environments' and 'cohesive communities'. This may entail the dissemination of positive images and stories about

high-rise estates, and attempting to change the way high-rise is discussed in public discourse. Therefore, the regeneration of high-rise blocks and estates in the city is a challenge of physical, social and cultural renewal.



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The full set of findings, and details of the analyses carried out are contained in:

Kearns A, Whitley E, Mason P, Bond L. Living the High-Life? Residential, social and psychosocial outcomes for high-rise occupants in a deprived context. *Housing Studies* 2012; 27:2.

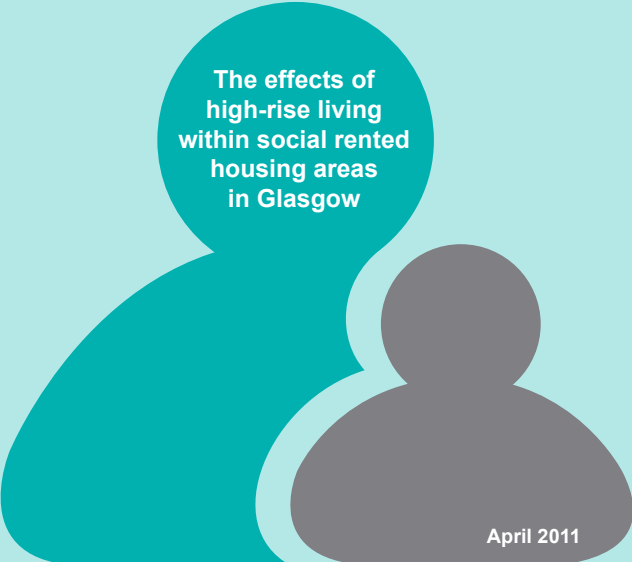
This will be available from late 2011 at: <http://www.tandf.co.uk/journals/chos>, or via www.gowellonline.com.

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