

Relocation to New Environments (RENEW)

1.	Project reference:	Final report date:	
	SPHR-CAM-PH1-RNE	31 August 2015	
2.	Project title:		
	Relocation to New Environments (RENEW)		
3.	Lead investigator(s) on project:		
	Dr David Ogilvie, Programme Leader — MRC Epidemiology Unit, University of Cambridge		
	Other NIHR School collaborators on project:		
	N/A		
3.	Names and roles of others involved in project (e.g. include fixed term contract researchers and external collaborators / partners):		
	Co-investigators Jenna Panter, University of Cambridge Fiona Bull, University of Western Australia Felicia Huppert, University of Cambridge Andy Jones, University of East Anglia		
	Fixed-term contracts Calum Mattocks, University of Cambridge April Saunders, University of Cambridge		
	SPHR collaborators Nick Osborne, University of Exeter Medical School		
4.	Project start date:		Project end date:
	6 January 2013		31 May 2015
4.	Duration:		
	29 months		
5.	Project objectives originally outlined in proposal:		
	<p>RENEW was a scoping, feasibility and pilot study intended to help develop an approach and methods for a longitudinal study of the impacts of moving to newly-built neighbourhoods on physical activity and wellbeing.</p> <p>The project was designed to examine the feasibility of, and assess methods for, some crucial aspects of study design: identifying suitable sites for study; recruiting participants prior to their moving house; recruiting controls; and data collection. These were addressed in two parallel strands of work referred to as the scoping study and the combined feasibility-pilot study, respectively.</p> <p>Scoping study The scoping study involved identifying suitable sites for the combined feasibility-pilot study, and was also originally intended to identify possible sites for a subsequent longitudinal study. We intended to work with developers and housing associations (gatekeepers) to identify sites of the required design</p>		

(ideally large and with a mix of housing types, green/recreational space and cycling and walking infrastructure) and secure the gatekeepers' participation in recruitment of research participants.

Feasibility-pilot study

The initial objectives of the feasibility-pilot study were:

1. Feasibility study

1.1. To estimate the response rate among participants (i) who were given information about and (ii) who expressed an interest in taking part in the study, in collaboration with gatekeepers

1.2. To estimate and compare the response rate among controls recruited by each of two alternative methods and to identify the method that was more successful and practical for a future study.

2. Pilot study

2.1. To compile two alternative versions of a study questionnaire

2.2. To compare the response rates and data quality associated with using a long questionnaire with those associated with using a short questionnaire combined with objective measurements of physical activity and movement

2.3. To estimate the standard deviations for key outcome measures for a future study

2.4. To conduct qualitative interviews with a sample of respondents to explore aspects of study implementation and deepen understanding of putative outcomes, mediators and moderators to be examined in a future study

2.5. To conduct qualitative interviews with a sample of gatekeepers to explore aspects of corporate and individual engagement with the research process to enhance participant recruitment and retention in a future study.

As the study progressed, it became apparent that only some of these objectives could be met (see section 6 below).

6. Briefly describe and explain the reason(s) for any changes to the project originally outlined in proposal:

Engagement with gatekeepers and recruitment of participants proved difficult throughout the life of the project and this represents a key finding of the project. Continued efforts to engage with housing associations in the study areas (see section 7 below) were mostly unsuccessful. Enquiries for help from housebuilding companies and estate agents were partly successful and their ongoing commitment varied. Recruitment methods were substantially adapted and changed during the life of the study in response to these challenges. The original plan was to recruit participants only via builders' sales offices in new developments, but this aspect of study design was gradually expanded to include recruiting via estate agents and by advertising using posters and social media (see section 7 below). In the original plan, eligible participants were adults who were considering moving home within the following year, but this criterion was also gradually expanded to include those who had moved home in the previous year. Flexible adaptation of the study design over time was therefore essential in deriving useful research outcomes from the project.

The low level of participant recruitment at the feasibility-pilot sites and subsequent refocusing of the study methods and analyses (outlined in previous interim reports) led us to conclude that a future study involving the simple 'roll-out' of the study design and methods tested in RENEW was not feasible (see section 7 below). The second part of the scoping study, intended to identify sites for this future study, was therefore not conducted as originally planned. However, subsequent discussions with regional and local stakeholders and academic partners identified the North West Cambridge development as a site for project development and a possible future study that would build on the learning from RENEW and link it with related School for Public Health Research (SPHR) activities (see sections 11 and 14 below).

A randomised controlled trial (RCT) comparing two methods of recruiting participants was a key component of the original study design. Early consultations with gatekeepers highlighted different preferences regarding their involvement with recruitment, so we were unable to incorporate this RCT in a timely fashion. Instead, we decided to incorporate a RCT to compare alternative methods for another crucial aspect of the study design, the recruitment of controls. Continuing difficulties with recruitment and an insufficient sample for meaningful quantitative analysis rendered this RCT unfeasible and compelled us to adapt our methods again. We therefore concentrated on expanding the qualitative component of RENEW in order to better understand the needs and priorities of both participants and gatekeepers. These changes are reflected in the content of this report and the ultimate academic outputs of the study. Recruitment for the qualitative component of the study was more successful and a range of participants, controls and gatekeepers were interviewed (see section 7 below).

7.

Brief summary of methods, findings against objectives, and conclusions (2-4 pages max):

Methods

Study sites

Initial recruitment for the feasibility-pilot study took place at sites selected based on discussions with housebuilding companies who were building large developments that incorporated key design features likely to be associated with physical activity, active travel and well-being. Sites in two distinct areas of the UK, East Anglia and Cornwall, were selected to provide some social and geographical contrast and to exploit the local connections of the two SPHR member institutions.

Recruitment of participants

'Participants' (people who had moved or intended to move home) were recruited by a variety of methods. Initially this was done directly by sales staff at the study sites described above. As the recruitment strategy was expanded, participants were also recruited using emails distributed by estate agents to their mailing lists; through advertising on a local authority housing website to target social tenants; using posters displayed at various sites in Cambridge city centre and at Addenbrooke's Hospital; and through social media such as Twitter and YouTube, including the use of a recruitment video ([see here](#)). Recruitment took place from January to September 2014. Eligible participants were adults who were considering moving home within the following year or had moved home in the previous year.

Recruitment of controls

Details of participants who expressed an interest in taking part were entered into a database. Each eligible participant was randomly assigned to one of two methods for identifying 'controls', i.e. people living in the same area and in a household of a similar composition who were not known to have moved or to be considering moving home. Those randomised to the snowball group were asked to suggest up to three people from their local neighbourhood who might be interested in taking part in RENEW on this basis. Those randomised to the electoral register group were not asked to help recruit controls. Instead, up to six controls who lived nearby were identified from the edited electoral register for their area of residence and contacted directly by the research team to enquire if they were willing to take part.

Quantitative data collection

Participants and controls were further randomised to receive either (a) a short questionnaire plus an Actigraph accelerometer and a Qstarz GPS monitor, or (b) a long questionnaire only. The questionnaires assessed physical activity and travel behaviour, neighbourhood preferences, wellbeing, general health and sociodemographic characteristics. The long and short versions were similar apart from a more detailed physical activity section in the long version. This was substituted in the short version with objective assessment of physical activity using the monitors, which participants were asked to wear for seven days. There were also minor differences in the wording of the versions issued to controls and to participants who had already moved house. Study packs containing questionnaires, monitors (for those randomised to receive these), instructions and consent forms were posted to participants with instructions to return them by post.

Qualitative data collection

Participants for qualitative interviews were selected from among those participants and controls who completed the quantitative survey described above. Semi-structured interviews were conducted at the research institution, the participant's home or on the telephone. Interviews used an initial topic guide with questions about attitudes to physical activity, active travel, health, neighbourhood preferences and reasons for moving. In order to explore issues relating to recruitment, participants were also explicitly asked about their reasons for taking part in the study.

Stakeholders were also interviewed. The stakeholder group consisted of professionals involved in the provision of housing and were drawn from local government and commercial house builders and estate agents. The topic guide for these interviews explored stakeholders' knowledge of and attitudes towards the relationships between the built environment and health and awareness of home movers' attitudes to lifestyle, transport and health.

All semi-structured interviews were recorded and then transcribed verbatim. Transcripts were read and coded by two members of the research team, using the topic guide as a coding framework but allowing for unanticipated emerging themes. All themes were discussed and agreed upon after discussion with the core research team.

Stakeholder research forum and participant observation

A range of stakeholders were invited to a research forum in May 2015. Twenty-seven stakeholders attended: these included representatives from house builders, estate agents, local authority housing, planning and design teams, third-sector organisations involved in housing provision or health, and academics. Dr Mattocks presented some of the qualitative findings from RENEW. The implications of the findings were then discussed in breakout groups. The day closed with a plenary summary and elaboration of the group discussions and an overall discussion about how to proceed with future research. Formal and informal discussions were recorded as ethnographic field notes by an experienced ethnographer, and supplemented by observational notes made by other study members. These participant observations provided additional participant-driven and contextual information for the qualitative data analysis of interviews, and also served to 'member check' the qualitative study findings with a selection of participants.

Ethical approval

The original study design and subsequent amendments were approved by the Cambridge Psychology Research Ethics Committee (Pre.2013.97).

Results (including findings in relation to the objectives)

Recruitment of participants, controls and stakeholders

Sixty-one people recruited from 14 study sites and via the recruitment methods detailed above expressed an interest in taking part. Of these, 24 did not participate due to non-eligibility, withdrawing from the study, not being contactable, or returning survey packs uncompleted. Thirty-seven people (28 women and nine men) therefore completed the quantitative study. Twenty-nine were moving or had recently moved ('participants') and eight were controls. No controls were recruited via the snowball method. All participants who wore the monitors wore them for the minimum requirement of four days, and the majority (19) wore them for seven days. All questionnaires were returned and there were few missing items. Twenty-one participants (17 women and four men, aged 25-73 years) and nine stakeholders were interviewed as part of the qualitative study.

Perspectives of people moving home

The sample largely comprised a middle-class group of either working or retired professionals who were aware of and mostly engaged with the idea of lifestyle as a determinant of health, although there was some individual variation in levels of knowledge and engagement. Three broad groupings of participants, with differing priorities and aspirations and largely based on life stage, emerged from the data. These groups were:

- Young people, often without children, who tended to be more mobile and independent;
- An older group who were more financially stable and often had dependent children;
- Older people, often retired with adult children.

These groups were not entirely discrete or mutually exclusive and had some priorities and aspirations in common.

Physical activity and active travel (access to transport and health)

Most participants were aware of physical activity as a means to maintain health and valued outdoor space in which to be active. Active travel was often used to increase or maintain physical activity levels. Health, convenience, enjoyment and environmental concerns were all cited as reasons for using active travel. Older participants tended to attach greater value to their health and saw keeping physically active as a means to prolong their quality of life and independent living, although concerns about the dangers of traffic were voiced among this age group.

Younger participants without families tended to place more value on active travel as a convenient and inexpensive way to travel. They were aware of the health benefits of active travel, but regarded this as bonus rather than a main benefit. Those in the middle stages of life were most varied in their attitudes. They prioritised open space and a less urban environment in which to bring up children, but often had longer, mixed-mode commutes for which access to public transport within cycling or walking distance of home was valued.

Neighbourhood and community (access to amenities, community and family)

Access to amenities was important, but different amenities were prioritised at different life stages. For example, older people wanted doctors and hospitals and, in some cases, their grown-up families to be within easy reach, while families needed schools. For younger people with no families, being near to friends and social amenities was important.

Green space (access to nature, recreation and wellbeing)

Attitudes to the living environment varied, although most participants expressed a preference for nearby green space, whether this was countryside or urban parks and greenery. Overall, people talked about access to greenspace and the outdoors in a positive way, although the reasons for their attraction to greenspace varied. Some participants appreciated being closer to nature (for example, observing seasonal changes) and its impact on their wellbeing, whereas having a place to exercise was important for others. Some participants placed a high priority on greenspace and being outdoors, while others enjoyed and used it occasionally but did not regard it as an essential part of their living environment. Similarly, some people regarded it as a 'must have' when considering where to move, but for others it came more as a bonus, with their priorities being the home itself, affordability and proximity to (other) amenities.

Perspectives of stakeholders

Public aspirations regarding lifestyle, greenspace and active travel

Stakeholders were aware that cost, type of home and access to transport and amenities were the main priorities of homebuyers. They also appreciated that some homebuyers were interested in lifestyle and health and that this had some influence on where people wanted to live. House builders and developers were keen to promote the greenspace, public open space, and walking and cycling amenities that were part of the larger developments they were building.

Tensions in planning priorities, and between local government and developers

Tensions were identified, for example in relation to negotiating the green space, other public open space and transport infrastructure to be provided in new developments.

Stakeholder research forum and future research collaboration

The stakeholder research forum (see section 11 below), stakeholder interviews and other informal discussions provided constructive feedback to guide the design and conduct of future research. Early collaboration and the formulation of research questions of particular interest to local authorities, developers and estate agents could help support more 'buy-in' and engagement. For example, if developers could see that a commercial advantage might be gained from promoting their developments much more explicitly as healthy environments, supported by research, their cooperation would be more likely. On a practical level, discussions at the forum with those involved in social housing provision indicated a willingness to help recruit participants from comparatively disadvantaged, hard-to-reach groups. The idea of conducting research at more tractable study sites was also raised, with particular reference to the North West Cambridge development recently begun by the University of Cambridge (see sections 11 and 14 below). Although there was concern about the diversity of residents and general representativeness of this site, particularly in its early phase of development, it was noted that the more established stakeholder network and access afforded by the University was likely to ensure more robust engagement of key stakeholders and more effective recruitment of participants.

Conclusions

RENEW has provided valuable insight into the priorities, aspirations and attitudes of both people involved in moving home and the stakeholders involved in the provision of new residential developments. The experience of the quantitative element of the study suggests that the recruitment methods trialled in RENEW are not suitable for direct roll-out into a more definitive study as originally envisaged. Although this was disappointing and forced us to reconsider the original aims and design of the project, the expanded qualitative element of the study was a success. The various interactions with stakeholders suggest that working more closely and at an early stage with them in formulating research questions and recruitment strategies could improve gatekeeper engagement and increase recruitment in future studies. Qualitative evidence from members of the public identified differing neighbourhood preferences and priorities that were, to an extent, dependent on stage of life. This information could be used to devise more focused research questions that address the priorities of participants and may also improve recruitment in future studies.

Our participants were generally aware of the relationships between lifestyle and health and many expressed the desire to live in neighbourhoods with greenspace in which to be active. This relatively high level of awareness emphasises the need to find ways of recruiting more diverse and socially inclusive samples in future studies. Evidence from stakeholders suggested that key local authority and housing association staff could help in recruiting harder-to-reach groups, such as those in need of social housing or with negative experiences of moving house.

Stakeholder interviews revealed a high level of awareness of homebuyers' beliefs that the neighbourhood and community could help facilitate healthy lifestyles and transport options. However, differing priorities between local government on the one hand and developers and builders on the other meant that there was often a tension between local authorities' aspirations regarding amenities such as

	<p>greenspace and cycle paths and what was eventually provided. The forum provided a useful platform for stakeholders from the public, commercial and third sectors to exchange and offer ideas on working collaboratively on formulating research questions, study design and recruitment strategies for future studies.</p>
<p>8.</p>	<p>Plain English Summary (400 words max) Please provide a summary of the project, including background, findings and conclusions:</p> <p>Physical activity is important for health and most people would benefit from being more active. However, this can be difficult to achieve in practice. Local authorities can play a part by making sure neighbourhoods are built to encourage more active lifestyles. For example, people who live in areas where it is more pleasant to spend time outdoors, or easier to walk and cycle, tend to be more active. Designing and planning neighbourhoods along these lines seems like a promising way of improving health, but it is not clear how well this works. New homes are being built in large numbers in many parts of the country. This could allow us to study the effects of new neighbourhoods on physical activity and health. Ideally, a research project like this would involve studying a group of people before and after they move home. This would allow us to compare changes in their physical activity, health and wellbeing with a control group who don't move home. However, a complex study like this would last for several years and would also be costly.</p> <p>We carried out an initial small-scale study called Relocation to New Environments (RENEW). Our aim was to try and solve some of the challenges of conducting a larger study in the future. We tried different methods of recruiting people to the study. We also interviewed people who were moving home, as well as a range of housing professionals. This helped us to understand the priorities, attitudes and preferences of people moving home. Most of the people we interviewed wanted to live somewhere close to a park, countryside or other green space. However, people had different preferences about the sort of neighbourhood they wanted to live in, which often depended on their stage of life. Interviews with housing professionals also provided us with useful information about working together more effectively to improve our research — for example about how to engage a wider range of people, both homeowners and tenants. Overall, RENEW has helped us understand how we could develop and carry out research in this area more effectively in the future. This could be important as the information from such research might help us to create healthier neighbourhoods and communities, enable residents to be active in these, improve health and reduce the burden on health and social services.</p>
<p>9.</p>	<p>Keywords Please provide up to 8 keywords that relate to the research undertaken in this study:</p> <p>Environment, physical activity, active transport, wellbeing, community, green space, pilot study</p>
<p>10.</p>	<p>Dissemination – please detail planned or published articles in peer-reviewed journals (including web links):</p> <p><u>Academic dissemination:</u> Two academic papers are in preparation with the working titles of: “Issues in research design: learning from a mixed-method pilot and feasibility study” “Housing developments as public health interventions: stakeholders’ priorities and expectations” The study design and methods for RENEW were presented at the SPHR Annual Scientific meeting at UCL in October 2013</p> <p>The work to date has fed in to preliminary discussions about a potential follow-on study under the auspices of the sustainability theme of the Public Health @ Cambridge network (www.publichealth.cam.ac.uk) (and SPHR: see sections 11 below)</p> <p>The study design and methods were the subject of an oral presentation at the annual meeting of the International Society for Behavioral Nutrition and Physical Activity in San Diego in May 2014</p> <p>A poster on “Attitudes towards active travel at different life stages among home movers” was presented at the annual meeting of the International Society for Behavioural Nutrition and Physical Activity in Edinburgh in June 2015.</p> <p>In 2016, there were two RENEW presentations at the fourth SPHR annual meeting in Newcastle in March. Dr Mattocks presented a poster, “Attitudes towards active travel at different life stages among</p>

home movers in the RENEW Study” and gave one of the bite-size talks called “Evaluating the impact of new residential environments on active living and well-being: scoping, feasibility and pilot study”

Non-academic dissemination:

SPHR Bulletin — winter 2013

SPHR Cambridge stakeholder event — November 2013

SPHR Cambridge stakeholder event — February 2015

Cambridgeshire County Council Joint Needs Assessment Exercise for New Communities workshop — July 2015

Study page and video on University of Cambridge website (www.cedar.iph.cam.ac.uk/renew).

Taylor Wimpey press release about their involvement to local media in Cornwall — March 2014

The study was tweeted on the CEDAR twitter account (@cedaruk).

11.

Public and participant involvement

Please provide comment on your experiences, any changes made and lessons drawn:

A stakeholder research forum was held on 27 May 2015. The forum was designed to be a learning event as well as a dissemination event, i.e. it was a planned part of the research process. Stakeholders were invited from local authorities’ housing, planning and design, public health and community development teams; builders and developers; and third-sector organisations with a remit for public health, communities or housing (see section 7 above). This proved to be a valuable event at which stakeholders with diverse and occasionally conflicting views and priorities were given a rare opportunity to discuss their perspectives on the relationships between neighbourhood and health and the direction of future research plans. Ideas were exchanged on the collaborative formulation of research questions and study design, and practical suggestions were made about recruitment, particularly recruitment of more diverse samples. For example, local authority representatives offered help with recruiting social tenants. Contact was made with a number of appropriate stakeholders who will be helpful in translating some of the learning acquired from RENEW into any next steps. For example, several of the delegates were involved in a large new housing development at North West Cambridge (see section 14 below) and we are currently in discussion on how to develop the research using that development as a study site.

Following the forum, Cambridgeshire County Council invited Dr Mattocks to participate in a Joint Strategic Needs Assessment (JSNA) workshop for new communities in July 2015. Dr Stefanie Buckner, who is working on the SPHR Age Friendly Cities (AFC) project, also attended. Some results were presented from RENEW and these sparked considerable interest (and tweeting) among the audience, largely drawn from local authorities. Contact was made with several interested parties with plans to discuss collaborations in relation to both the AFC project and the North West Cambridge development.

Working with local authority and third-sector practitioners, as well as representatives from the commercial sector, has proved worthwhile and constructive. Understanding the needs and priorities of various stakeholders has given us valuable insight and allowed us to think further about the research that will follow and build on the lessons from RENEW. On a practical level, new relationships with key stakeholders have been formed that will help with the planning and execution of any future research.

12.

What impact has the research already achieved or what might it achieve? (i.e. policy, practice, academic):

As a scoping, feasibility and pilot study, RENEW was always intended to inform learning about the research process rather than to produce results with direct impact on practice or policy. However, there was considerable interest in RENEW from public health and housing practitioners. They were interested to hear the results of the qualitative analysis, particularly regarding participants’ neighbourhood preferences and attitudes towards physical activity, active travel and green space. There was a strong sense that much could be learned about the relationships between neighbourhood design and health from a continuation and expansion of RENEW, albeit with a recognition of the difficulties encountered in conducting the study. A number of stakeholders at the forum advocated pursuing a variety of research questions that were closely related to the aims of RENEW and were willing to work with us to pursue these, e.g. by collaborating on research questions pertinent to local authority needs or by helping to recruit participants from local authority housing lists.

Additionally, Dr Mattocks’ presentation to the Cambridgeshire County Council JSNA (see section 11 above) generated considerable interest and an invitation for ongoing involvement in that exercise, with the potential to help shape policy at a local level.

Dr Ogilvie has also been engaged with the steering group for the Northstowe Healthy New Town and has recently provided evidence-based scientific feedback on the design code for phase 2 of the development, and is currently developing a (MRC-funded) PhD project examining the health contribution to the masterplanning process in Northstowe and other case study localities.

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Department of Health Disclaimer:

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