Conducted for Cycling England (led by the Directorate of Public Health, East Midlands)by the Carnegie Research Institute Leeds Metropolitan University

Cycling and Health Innovative Pilot Projects

Final Report 2011

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Executive Summary

The Cycling and Health Innovative Pilot Project (CHIPPS) provided cycle training for adults in Nottingham and Northamptonshire from 2007 to 2010. The Primary Care Trusts in each area have delivered these projects in collaboration with partners. In Nottingham collaboration with Ridewise delivered the Cycling for Health Project that aimed to involve people from deprived communities and employees of the Primary Care Trust; in Northamptonshire the Easy Rider project delivered via Age UK was also aimed at those living in deprived areas and middle-aged people. Throughout the three years the initiative was evaluated by the Carnegie Research Institute of Leeds Metropolitan University. Those taking part completed questionnaires at the outset, at the end of their training, three months later and finally after a year. In addition, a mix of one-to-one interviews and focus groups were conducted with policy makers, those delivering the projects and participants (including those who dropped out).

Key Findings

The projects benefited from regular meetings that allowed goals and targets to be reviewed in the light of project monitoring reports and feedback from the researchers' evaluation.

It was known from the outset that these projects would not involve large numbers of people and targets were set accordingly. In the event, the programme was delivered to 261 people in Northamptonshire and 228 in Nottingham. More generally, the projects recruited more women than men (65% in Northamptonshire and 75% in Nottingham) and were effective in reaching minority ethnic communities.

Level 1 of the CTC scheme is too advanced for some and an entry level, like that offered by these projects, is needed through which those who have never ridden can learn to ride. Classes then need to be graded, starting on enclosed areas off-road, then on near deserted roads (like an industrial estate on a Saturday morning before moving onto quiet roads).

As hoped, the projects did have an impact on participants' confidence (see Table 1). For example, in Northampton two thirds said they had gained confidence in light traffic, and in Nottingham a majority even said they had gained confidence in complex road environments.

Table 1: Participants' Changes in Cycling Confidence over 12 months in Northamptonshire and *Nottingham*

Cycling competence	Gained confidence		No change		Lost confidence	
Level 1 – basic control	60%	54%	18%	43%	22%	3%
Level 2 – light traffic	66%	52%	14%	48%	20%	0%
Level 3 – complex roads	46%	55%	29%	29%	25%	16%

In Northamptonshire participants showed a small but significant increase in participation from their starting point. Time spent cycling was greatest at three months after finishing the training; although it then declined it was significantly

greater after 12 months than at the outset. Although participants in Nottingham showed greater increases in time spent cycling these changes were not statistically significant because there were fewer people involved.

The stage of change model assesses people's orientation to (in this case) cycling from those who are not even thinking about it to those who have relapsed into non-activity. In both PCT areas those in the active categories of action and maintenance increased markedly through the project (from 44-60% in Northamptonshire and from 51-72% in Nottingham), but then declined again beyond that, though still remaining above baseline.

However, in neither Northamptonshire nor Nottinghamshire was there any real change in general activity levels, as measured by EPIC categories, because most people were already in the moderately active or active category.

We have no hard data on the success of these projects in attracting people from more disadvantaged backgrounds though Ridewise instructors observed a more mixed set of participants than they would otherwise be working with. In Northamptonshire qualitative data suggest that while participants initially came from more affluent areas that gradually changed through the course of the project.

The projects in both PCTs had success in recruiting guided ride leaders but whereas Northamptonshire also managed to train some people as trainers, Nottingham found this more difficult.

One of the goals of the Northamptonshire project was for participants to 'graduate' to local cycling clubs, however there are no casually recreational clubs for them to become a part of, most cycle clubs require a pace and distance beyond graduates of these projects.

Good Practice

The CHiPPS projects have shown the importance of an adequate investment phase to get appropriate procedures and practices established. Short term funding inhibits this; the third year of funding for CHiPPS allowed models to be developed and momentum to build up as more people progressed through the system and alliances were developed.

The experience of Nottingham in particular has emphasised the value of an integrated referral network and of being able to use cycling enthusiasts rather than health professionals who may not have the necessary skills or interest to promote cycling.

In Nottingham the problem of ensuring a regular supply of bikes has been successfully addressed in part by teaming up with *Framework*, a social enterprise that recycles bicycles.

Both projects established that although some 1:1 attention may be necessary at the outset group classes are not only more efficient but also provide a valued social element and a chance to establish support networks.

Learning Lessons

As with many projects before it, the experience of CHiPPS emphasised the importance of allowing sufficient time to set sound foundations for the project. Equally, the third year of funding was important in allowing the projects to be refined to address need and to secure their legacy.

As expected, it was indeed hard to recruit people from target groups that might be seen to be on the 'wrong' side of the health divide. This type of engagement might best be achieved through community development approaches and the use of trained intermediaries recruited from their peers in the local community.

The training itself needs to be differentiated according to the experience, skills, confidence and even personality of the participants. Beyond the training the challenge is to embed cycling in people's everyday lives to ensure participation is sustained and health benefits maximised. Apart from training a cycling project needs bikes. The CHiPPS projects developed various approaches including linking with others repairing and recycling bikes, bile hire schemes, a bike library and making bikes available at community facilities.

However good the systems might be the right individuals need to be in place to ensure success. The programmes are better delivered by cycling enthusiasts rather than health professionals who may not have the necessary skills or interest to promote cycling, and a champion is needed in policy circles.

Experience from the CHIPPS projects suggests that what is needed to make a successful project is:

- Establishing an integrated referral network with pathways from a range of professionals both within and outwith the health service
- Sufficient trainers – training the trainers to increase capacity
- Properly resourced – a bike "library" with a varied resource pool
- Providing maintenance skills – keeping bikes on the road and safe
- Social engagement – fostering conviviality, camaraderie, team and safety
- An exit strategy to maintain cycling activity

What Next?

The cutbacks in public funding do not come at a good time for securing the future of these initiatives. However, both projects report hopefully on the possibilities of social enterprises linked to GP referrals as well as opportunities that may accrue from greener transport policies. Whatever emerges in the wake of CHiPPS will have to negotiate the upheaval from the demise of PCTs and the opportunities offered by the transfer of public health responsibilities to local authorities.

There is a need to make sure that initiatives to promote cycling are fully synchronised with efforts to increase physical activity; i.e. people should be offered the opportunity most likely to get and keep them active.

Instead of asking 'What do we need to do to get people cycling?' the approach adopted here invites a series of questions by recognising the different stages involved in changing behaviour:

- What can we do to get people's attention?
- Having got their attention how can we persuade them cycling might be for them?
- What will it take to get them actually cycling?
- How can we encourage them to make it part of their 'normal everyday lives'?
- What will it take to keep them cycling once our intervention is withdrawn?

Moreover, it recognises that there are very different types of people in any local authority area with very different attitudes to physical activity.

The data from this evaluation also demonstrate the need for something to be in place to prevent the loss of hard won gains between 3 and 12 months after participation in initial training.

Contents

1. Introduction

1.1 Background

This report represents the final evaluation of the three-year Cycling and Health Innovative Pilot Project (CHIPPS) in the East Midlands. From the project's initiation in 2007 to completion, some aspects of the environmental context have remained constant while others have changed fundamentally, most notably in terms of the financial crisis and a change in government. Persisting and growing even stronger are the concerns over sedentary lifestyles and obesity, and there is a growing awareness of the environmental damage caused by motorised transport.

Public health policy tackles what the government once called 'unwise behaviour and over-indulgence' (DHSS, 1976: 31). More recently the interest has moved on to health interventions that promote positive lifestyles like being physically active rather than trying to contest negative practices like smoking. This can be seen in *Choosing Health* (Department of Health, 2004) and *Choosing Activity* (Department of Health, 2005). The Department of Health's *Be Active, Be Healthy* (DH, 2009) placed the emphasis firmly on everyday physical activity. The government has increasingly focused on the association between physical activity and health, and the associated cost savings. After some equivocation the idea that physical activity can deliver significant health benefits is now generally well established (e.g. WHO, 2009).

The potential contribution of cycling to public health has been recognised more often in statements of public policy, in light of concerns for the environment, for people's health and wellbeing and for safer communities. Some time ago the government (Department for the Environment, Transport and the Regions, 1998) concluded that cycling is 'one of the few physical activities which can be undertaken by the majority of the population as *part of a daily routine'*. More recently the Department for Transport affirmed its commitment to increasing recognition of cycling as a desirable transport option with its *Active Transport Strategy* (DfT 2010) linked to *Change 4 Life*[1]. The Strategy notes that the UK compares unfavourably with other European nations in terms of the proportion of trips that cycling accounts for, hence the commitment to providing cycle training for every child.

When *Choosing Activity* was published (DH, 2005) as part of the government's public health strategy it contained a target to get 50% of people doing 30 minutes of moderate physical activity a week. The commitment to cycling was reflected in this practice of associating public policy with target-setting. In the government's public health strategy National Indicator 8 (NI8) is the only national indicator that currently relates directly to sport/physical activity and is defined as "the percentage of the

[1] Details of the NHS campaign appear at: http://www.nhs.uk/change4life/Pages/change-for-life.aspx

adult population (age 16 years and over) in a local area who participate in sport and active recreation, at moderate intensity, for at least 30 minutes on at least 12 days out of the last 4 weeks (equivalent to 30 minutes on 3 or more days a week)". This coincides with the Legacy Action Plan (LAP) in which the Government set a target of delivering two million more active people through the period of the Olympiad, divided evenly between those achieving their activity targets through sport and through more general physical activity. Cycling of course straddles the two, though the projects considered here are more likely to address the latter. The target encompasses sport, active recreation and everyday physical activity such as walking, cycling, gardening, active conservation and dance. To measure progress towards this target data are taken from the Active People Survey (APS) to measure the number of adults (aged 16 and over) participating in sport and/or undertaking some form of physical activity at moderate intensity at least three times a week. The LAP indicator includes information relating to dance, gardening, recreational cycling, recreational walking and active travel, in addition to sports participation data. This is a broader list of activities than those contained in NI8.

Although the 2 million target has now been set aside, the various national governing bodies of sport still have individual APS targets incorporated in their 'whole sport plans'. The most recent data from Sport England's Active People Survey indicate that cycling is one of only four sporting and recreational activities to have shown a statistically significant increase in participation from 2007/8 to 2009/10. Participation in cycling has grown by 4.3%, an increase of 99,200 people[2].

To reach Government targets high quality, sustainable, physical activity interventions need to be developed and evaluated. Community-based interventions may be an important contribution to increasing participation. Research findings suggest that targeting short-term increases in physical activity may have added value by modifying habitual activity status and producing longer term benefits (e.g. Dunn et al., 1998). Furthermore, interventions that promote moderate intensity physical activity which are not facility-dependent, such as cycling, are associated with longer-term changes in physical activity behaviour (Hillsdon and Thorogood, 1996). When SQW (2007) attempted to put a monetary value on the health benefits of cycling, they calculated, for example, that the average annual value of cycling 3 times/week amounted to £175.51 for 45 – 64 year olds.

1.2 The CHIPPS

The *Cycling and Health Innovative Pilot Projects* (CHIPPS) pre-date the *Active Transport Strategy* and, unlike most cycle training schemes, focus on adults.

[2] http://www.sportengland.org/research/active_people_survey/active_people_survey_4.aspx

This independent evaluation of CHIPPS was commissioned by Cycling England and is jointly managed by the Directorate of Public Health, East Midlands. It is different from most other cycling projects around the country because it is led by Primary Care Trusts (PCTs) delivering the Cycling for Health project in Nottingham and the Easy Rider scheme in Northamptonshire. The PCTs in turn work with delivery partners, principally RideWise and Age Concern (Age UK as of 1st April 2010). Although we sometimes refer to this as a single project there are different modes of working in different locations: Nottingham City PCT; and Northamptonshire PCT (Northampton and Kettering). Nonetheless, we have tried to adopt comparable approaches in each site while retaining the ability to analyse the data separately.

The purpose of this study was not to establish whether or not increasing physical activity leads to health benefits. Accepting the now strong research evidence that increased physical activity reduces health risks the challenge here has been to evaluate the success of CHIPPS in increasing participation and to examine how that has been achieved.

Unfortunately this is set against a background of recent evidence indicating that the UK population has been becoming increasingly sedentary (e.g. Department of Health, 2003). Now able to draw on a further year of research, we are not only able to examine a larger data set to assess engagement with these cycling projects, but are also able to address adherence (the extent to which people maintain their involvement) by examining longitudinal data as well as cohort data. It also allows us to track the changes the projects have implemented as they evolve.

2. Research Approach

The evaluation focused on the two main partners of the CHIPPS project: Nottingham City and Northamptonshire. In Northamptonshire, CHIPPS was introduced in two areas: Northampton and Kettering. Initially, both projects had different remits.

The Nottingham City NHS Primary Care Trust had a good track record of working with partners to address health problems and reduce health inequalities through a range of services. These included identifying and addressing environmental causes of ill health, developing evidenced-based health promotion services, and providing and commissioning health services when people become ill. The CHIPPS project was identified as an important development that had the potential to reduce the incidence of ill health and reduce health inequalities in Nottingham through the promotion of cycling, both as a physical activity and active travel option. The Nottingham City project aimed to get more people to cycle more safely more often in the Nottingham City area. Nottingham City intended to involve new and existing services such as the Ridewise Cycling Training Programme and Health Trainers. Project objectives included (1) the implementation of a local cycling programme a) within deprived communities, and b) within the Primary Care Trust; (2) Develop skills and competencies of the PCT workforce and Ridewise trainers in order to deliver CHIPPS; (3) Engage more people from target groups to take up cycling; (4) Establish links with key agencies to ensure a co-ordinated approach to programme delivery; (5) Contribute to national evidence about cycling and health.

In Northamptonshire, the aims of the project were to re-introduce cycling as a leisure pastime and encourage participation through providing easy access to training, cycle routes and guided rides in and around the two pilot areas based in Northampton and Kettering. The Northamptonshire County Council Transport plan hoped to increase the numbers of trips made by cycling or walking. It was hoped that the project would encourage greater use of public transport, cycling, and less reliance on cars for social interaction, friendship and developing community cohesion. Like Nottingham City – the overall aim of CHIPPS in Northamptonshire was to get more people cycling more often and more safely. The project would strongly support behaviour change towards an uptake of cycling outside leisure time in accordance with the County Transport Plan "Easy Rider". Easy Rider would aim to (1) Re-introduce cycling for middle-aged individuals who may have cycled for leisure or sport during their younger years and who now may have come to rely on cars or other forms of transport. It was felt that many of these people would also have knowledge of cycle maintenance and be interested in becoming cycling volunteers in local schemes. Once a number of these individuals had been recruited, the aim was to then increase cycle usage, and; (2) To promote cycling in areas of higher deprivation. Local Area

Agreement partners were committed to improving social cohesion and had identified areas of high deprivation as co-ordinated Neighbourhood Management areas which had strong links with Community Safety teams, health care services and local residents. In many of these areas, issues such as a lack of recreational activities for young people and families had been identified; (3) Northamptonshire is an area of low skills and high employment, however the main employment areas are at the edge of the town in distribution centres and retail parks. Cycles would be used as vehicles to develop social cohesion, encourage physical activity and enable independent transport for people on low incomes to access both employment and local services. Both programme areas (Northampton and Kettering) would be delivered through a collaborative approach between the Healthy Communities Collaborative, the Neighbourhood Management Co-ordinators, and Northamptonshire Sport, the delivery vehicle for the LAA targets for physical activity.

2.1 Customising Design

To meet Government targets for engagement in regular physical activity, novel sustainable approaches are required. The Cycling and Health Innovative Pilot Projects (CHIPPS) represent one example designed to demonstrate how Primary Care Trusts can promote cycling effectively, through targeted partnership working, in conjunction with Cycling England and the Regional Directorate of Public Health, East Midlands.

Noting the similarities in the aims and objectives of the projects in the dual site CHIPPS programme we thought it important to adopt comparable approaches for each participating PCT. In order to evaluate effectively we developed a cascading model of data capture by training the local project teams to collect data, enter into a customised database and return to the Carnegie Research Institute for analysis. Our model included the development of appropriate evaluation tools to answer the research questions generated by the Nottingham and Northamptonshire PCTs.

Nottingham City PCT aimed to:

a) Focus on the number of cycle trainers trained by Healthy Cycling Project Manager Health Trainers and RideWise trainers;
b) Record the number of health advocates attending cycle training sessions and the number of RideWise training sessions conducted;
c) Increase the number of miles cycled by staff and community members as a result of the programme;
d) Determine if an improvement in health and wellbeing of staff and community members has been achieved; and to determine the impact of the programme on NHS staff and community members.

Northamptonshire PCT aimed to:

a) Increase the level of physical activity of participants;
b) Increase numbers referred to and attending cycle courses and guided cycle rides;
c) Increase numbers of informal groups and buddy support systems set up;
d) Establish the number of participants joining cycling clubs.

2.2 Evaluation Tools

We implemented different phases of data capture which would allow us to answer the research aims of the two sites. The bespoke questionnaires that we developed for the project were completed by participants when they first attended the project (baseline), exit (when they completed the training programme), 3 months and 12 months later (Nottingham also collected 18 month data). The baseline questionnaire (see Appendix 1) differs slightly from the follow up questionnaires in that it carries specific demographic questions (questions 17 to 24). We have reported the responses to questions 1 to 16 in the form of a summary table for Northamptonshire and Nottingham City (See Appendix 2). In Chapter 3, we consider people's initial engagement (recruitment), whether they stay involved (retention) and the consequence of their involvement (impact).

2.2.1 Statistical Analysis

We conducted a longitudinal analysis from the ordinal/ratio level data collected from the questionnaires (i.e. questions 1, 3, 8, 9, 11) in order to identify change in circumstances. Due to dwindling and variable retention rates at different time-points i.e. baseline, exit, 3 months, 12 months, 18 months we conducted a paired samples t-test between baseline and each subsequent time-point for both Nottingham City and Northamptonshire. Participants who had dropped out at each time-point were removed from the analysis. All statistical tests were performed using SPSS version 17.0 (SPSS inc., Chicago, IL, USA). Statistical significance was set at $P<0.05$. Data are presented as mean ± standard deviation (SD) and % change. We also performed cross-tabulations to look at the relationship between different variables, e.g. confidence and stages of change.

2.3 Focus groups and interviews

In order to assess whether cycle training had improved participant health and wellbeing we used a more qualitative approach to data gathering using focus groups and telephone interviews. The intention has been to use the focus groups to explore improvements in health and wellbeing resulting from the CHIPPS programme and any other mechanisms associated with altered cycling behaviour.

A different kind of focus group was concerned with process evaluation. We invited a cross-section of senior policy makers, deliverers (including health trainers/RideWise trainers/Easy Rider trainers/ peer mentors, etc) as well as trainees to discuss the implementation process from their own perspectives. For senior policy makers, it was not always possible to meet face-to-face so we arranged a series of telephone interviews which covered issues similar to the face-to-face focus groups. We addressed their personal perspectives on the development and implementation of the CHIPPS programme; identifying what relationships have been built from this multi-partner scheme, what were the organisational, personal and interpersonal facilitators and barriers to success, and what were the respective roles of each partner agency. The main data gathering phases for this element of the evaluation were in November/December 2008, September 2009, and September 2010, though with some interviews conducted outside these periods.

The focus groups and interviews used a 'framework' approach for structuring both the interviews and the subsequent content analysis. This framework is derived from a process acronym known as REAIM (Reach, Effectiveness, Adoption, Implementation and Maintenance – see p8).

2.3.1 Northamptonshire

Interviews were conducted in November and December 2008:

- Focus Group 1: Participants (4 current members)
- Focus Group 2: Volunteer Cycle Trainers (4)
- Telephone Interviews: Age Concern – Assistant Lifetime Manager
  Age Concern – Assistant EasyRider Co-ordinator
  Age Concern – EasyRider Co-ordinator (Kettering)
  Sports project manager

Interviews conducted September 2009

- Focus Group 1: Participants (16)
- Focus Group 2: Volunteer Cycle Trainers (2)
- Interviews: Age Concern – Assistant Lifetime Manager
  Age Concern – Assistant EasyRider Co-ordinator
  Age Concern – EasyRider Co-ordinator (Kettering)
  AgeConcern – EasyRider Coordinator (N'hampton)
- Telephone Interview: Northampton PCT – Physical Activity Co-ordinator

Interviews conducted September 2010:

- Focus Group 1: Participants (6)
- Focus Group 2: Volunteer Cycle Trainers (2)
- Interviews: Age UK – Assistant Lifetime Manager
  Age UK– EasyRider Co-ordinator (Northampton)
  Age UK - EasyRider Co-ordinator (Kettering)

2.3.2 Nottingham

Interviews conducted in November and December 2008:

- Focus Group 1: Participants (x2 participants)
- Focus Group 2: Health trainers (3)
  RideWise cycle instructors (2)
  Physical activity advisors (2)
  Outreach worker (1)
- Interview: Cycling for Health project co-ordinator

Interviews conducted in September 2009:

- Focus Group 1: Participants (x8 participants)
- Focus Group 2: Health trainers (3)
  RideWise cycle instructors (3)
  Physical activity advisors (1)
  Outreach worker (1)
- Interviews: Cycling for Health project co-ordinator

Interviews conducted in September 2010:

- Focus Group 1: Participants (x4 participants)
- Focus Group 2: Health trainers (1)
  RideWise cycle instructors (5)
  Physical activity advisors (1)
- Focus Group 3: Ridewise Cycle instructors

- Interviews: Cycling for Health project co-ordinator
  RideWise Co-ordinator
  PCT

2.3.3 Programme manager

Using a pro-forma as a guide, telephone interviews were conducted in September 2009 with Dr Nick Cavill, Cycling England.

3. Findings

3.1 Recruitment

Rather than reporting the data exhaustively we have tried to be selective in picking out data of interest.

3.1.1 Northamptonshire (Northampton and Kettering)

261 participants were recruited across the three years, of whom 69 participants were in Kettering (40, 117 and 104 in each of the respective years).

- 65% females;
- age range – 35-54 years (43%); 55-74 years (25%)
- educational attainment – 14% A-levels, 18% degree, 10% no qualifications;
- ethnicity – 69% White, 9% African/Caribbean, 5% Asian, 18% Other;
- 32% employed full-time (FT), 14% employed part-time (PT), 13% retired; 10% unemployed.

3.1.2 Nottingham

228 participants were recruited across the three years (36, 119 and 67 in each of the respective years).

- 75% females;
- age range typically 35-54 years (60%);
- educational attainment – 14% A-levels, 23% degree, 11% no qualifications;
- ethnicity – 45% White, 25% African/Caribbean, 14% Asian, 16% Other;
- 28% FT employed, 18% PT employed, 10% retired; 17% unemployed).

3.1.3 CHIPPS Comparison

The large majority of participants across the different sites are females. As anticipated, the age profile has an emphasis on middle aged participants, though Kettering has a rather older age profile reflecting the Age Concern networks used for recruitment. Across all sites, only a minority of participants are in full-time employment and almost as many are either retired or unemployed.

3.2 Retention

Our indicators of retention may be as much indicators of staying with the evaluation exercise as of continuing to cycle.

3.2.1 Northamptonshire (including Kettering)

Between baseline and exit there was a retention rate of 51%, which fell to 42% at 3 months and 29% at 12 months.

3.2.2 Nottingham

Between baseline and exit there was a retention rate of 15%, 10% between baseline and 3 months, 14% between baseline and 1 year.

3.3 Longitudinal analysis of questionnaire data

We were able to track long-term changes in participants' responses to the questionnaires across the different time-points of the project i.e. baseline, exit, 3 months and 12 months (where data was available).

3.3.1 Northamptonshire

We wanted to establish whether the demographic profile had changed at 12 months because we thought this would give us an indication about the types of people who remained engaged in the CHIPPS programme. We found that the percentage of female participants increased by 7% (72%) at 12 months. There was little change in participants aged between 35-54 years (44%), and the profile for educational attainment had not changed (14% v 10% A-levels, 18% v 16% degree, 10% v 11% no qualifications). There were more white participants (69% v 76%) while participants of an African/Caribbean background had decreased (9% v 6%) after 12 months. There were slightly less full- and part-time workers (32% v 29% and 14% v 13%), and an increase in retired participants (13% v 22%) continuing after 12 months.

There was a significant increase in the amount of cycling activity reported in the past week between baseline and exit (1.0 ± 3.5 hours v 2.6 ± 6.9 hours; *P*=0.002), and the number of days of cycling reported in the past week (1.0 ± 1.8 days v 1.7 ± 1.6 days; *P*=0.004). We considered whether this was simply attributable to those who were less active dropping out, leaving only the more active in later samples. However, having checked this we were reassured that this was not the case. There were no significant differences in responses between baseline and exit for questions related to hours per week of vigorous physical activity, minutes cycled per day, and number of times cycled in different locations in the last week.

Table 1. Changes in physical activity profiles between baseline and exit

Variables (mean ± SD)	Baseline	12 months	*P*-value
Amount of cycling in past week	1.0 ± 3.5 hours	2.6 ± 6.9 hours	*P*=0.002
Days of cycling reported in past week	1.0 ± 1.8 days	1.7 ± 1.6 days	*P*=0.004

Between baseline and 3 months, there was a significant increase in the amount of cycling activity reported in the past week (0.9 ± 3.7 hours v 2.7 ± 6.7 hours; *P*=0.0001), and the number of days of cycling reported in the past week (0.7 ± 1.5 days v 2.0 ± 1.6 days; *P*=0.016). There were no significant differences in responses between baseline and 3 months for questions related to hours per week of vigorous physical activity, minutes cycled per day, and number of times cycled in different locations in the last week.

Table 2. Changes in physical activity profiles between baseline and 3 months

Variables (mean ± SD)	Baseline	12 months	*P*-value
Amount of cycling in past week	0.9 ± 3.7 hours	2.7 ± 6.7 hours	*P*=0.0001
Days of cycling reported in past week	0.7 ± 1.5 days	2.0 ± 1.6 days	*P*=0.016

Between baseline and 12 months, there was a significant increase in the amount of cycling activity reported in the past week (1.2 ± 4.3 hours v 1.4 ± 2.6 hours; *P*=0.007), and the number of days of cycling reported in the last week (0.8 ± 1.7 days v 1.9 ± 1.8 days; *P*=0.017). There were no significant differences in responses between baseline and 12 months for questions related to hours per week of vigorous physical activity, minutes cycled per day, and number of times cycled in different locations in the last week.

Table 3. Changes in physical activity profiles between baseline and 12 months

Variables (mean ± SD)	Baseline	12 months	*P*-value
Amount of cycling in past week	1.2 ± 4.3 hours	1.4 ± 2.6 hours	*P*=0.007
Days of cycling reported in past week	0.8 ± 1.7 days	1.9 ± 1.8 days	*P*=0.017

Table 4. % changes in EPIC categories between baseline and 12 months

Category	Baseline	Exit	3 months	12 months
Inactive	2%	7%	1%	2%
Moderately inactive	2%	3%	10%	0%
Moderately active	16%	18%	16%	21%
Active	80%	72%	73%	77%

There was little change in EPIC categories over 12 months. EPIC categories show the relationship between lifestyle physical activity engagement and occupational status. It was clear from the outset the majority of participants were moderately active or active.

Table 5. % change in Stages of Change model

Stage	Baseline	Exit	3 months	12 months
Pre-contemplation	2%	0%	3%	0%
Contemplation	19%	19%	21%	20%
Preparation	27%	18%	14%	19%
Action	8%	17%	11%	6%
Maintenance	36%	43%	44%	43%
Relapse	9%	3%	6%	11%

Using the categories of the Stages of Change model, Table 5 shows that at baseline, 44% of participants were active (action and maintenance stages) which increased to 60% at exit, but fell back to 49% at 12 months.

Table 6. % changes in confidence levels between baseline and 12 months

Cycling competence	Gained confidence	No change	Lost confidence
Level 1 – basic control	60%	18%	22%
Level 2 – light traffic	66%	14%	20%
Level 3 – complex roads	46%	29%	25%

At Levels 1 & 2, between 60-66% of participants gained confidence over 12 months. Even at Level 3 (complex road sitations) 46% of participants gained confidence at over 12 months.

Table 7. % changes in feelings towards cycling between baseline and 12 months

Variables	Positive feelings	No change	Negative feelings
Enjoyable	42%	30%	28%
Interesting	31%	33%	36%
Pleasant	45%	26%	29%
Relaxing	41%	27%	32%
Beneficial	37%	38%	25%

Over 12 months, the majority of participants found cycling more enjoyable, pleasant, and relaxing. Slightly more participants (36% v 31%) found cycling less interesting.

3.3.2 Nottingham

As with Northamptonshire we wanted to determine if the demographic profile at 12 months was different from the baseline profile. The percentage of female participants remained unchanged (75%) after 12 months. There was a 6 percentage point increase in participants aged between 35-54 years (66%), and after 12 months a greater proportion held higher qualifications

(14% v 24% A-levels, 23% v 28% degree, 11% v 10% no qualifications). There was an increase in the proportion of participants from a white (45% v 58%) and African/Caribbean (25% v 39%) background after 12 months. There was a change in full- and part-time workers (28% v 45% and 18% v 23%), whilst retired and unemployed participants remained unchanged after 12 months.

There was a non-significant increase in the amount of vigorous physical activity reported in the past week between baseline and exit (4.4 ± 4.1 hours v 5.1 ± 5.8 hours; *P*=0.450), and a similar trend was noted for the number of days of cycling reported in the last week (1.9 ± 1.9 days v 2.9 ± 2.6 days; *P*=0.337). There was also a non-statistical increase in the amount of minutes cycled per day (56.1 ± 51.1 min v 72.7 ± 83.4 min; *P*=0.413). Between baseline and 3 months, there were no significant relationships in the data described above. Between baseline and 12 months, there was a non-significant increase in the amount of cycling activity reported in the last week (1.4 ± 2.2 hours v 3.1 ± 3.5 hours; *P*=0.216). Despite quite a marked increase in time spent cycling the increase did not reach statistical significance due to the low numbers reported in subsequent time-points.

Table 8. Changes in physical activity profiles between baseline and exit

Variables (mean ± SD)	Baseline	12 months	*P*-value
Vigorous physical activity in past week	4.4 ± 4.1 hours	5.1 ± 5.8 hours	*P*=0.450
Days of cycling reported in past week	1.9 ± 1.9 days	2.9 ± 2.6 days	*P*=0.337
Minutes cycled per day	56.1 ± 51.1 min	72.7 ± 83.4 min	*P*=0.413

Table 9. Changes in physical activity profiles between baseline and 12 months

Variables (mean ± SD)	Baseline	12 months	*P*-value
Amount of cycling in past week	1.4 ± 2.2 hours	3.1 ± 3.5 hours	*P*=0.216

Table 10. % changes in EPIC categories

Category	Baseline	Exit	3 months	12 months
Inactive	0%	10%	6%	8%
Moderately inactive	11%	10%	6%	4%
Moderately active	6%	5%	6%	12%
Active	83%	75%	82%	76%

Table 11. % change in Stages of Change model

Stage	Baseline	Exit	3 months	12 months
Pre-contemplation	0%	0%	0%	0%
Contemplation	27%	15%	14%	22%
Preparation	15%	6%	5%	13%
Action	21%	33%	9%	19%
Maintenance	30%	39%	55%	38%
Relapse	6%	6%	18%	9%

At baseline, 51% of participants were physically active (action and maintenance stages) which increased to 72% at exit, and fell to 57% at 12 months.

Table 12. % changes in confidence levels between baseline and 12 months

Cycling competence	Gained confidence	No change	Lost confidence
Level 1 – basic control	54%	43%	3%
Level 2 – light traffic	52%	48%	0%
Level 3 – complex roads	55%	29%	16%

At all 3 levels of cycling proficiency, 52-55% of participants gained confidence over 12 months.

These data show that at Levels 1 & 2, physically active people were generally more confident, and the association strengthened over 12 months of the intervention. The positive association between physical activity and confidence did not remain in complex road situations (Level 3). Further, the intervention did not improve the relationship between these variables over 12 months.

Table 13. % changes in feelings towards cycling between baseline and 12 months

Variables	Positive feelings	No change	Negative feelings
Enjoyable	31%	50%	19%
Interesting	22%	55%	23%
Pleasant	14%	72%	14%
Relaxing	28%	58%	14%
Beneficial	28%	58%	14%

Over 12 months, the majority of participants reported no change in their feelings towards cycling. However, more participants reported positive feelings towards cycling. The low number of participants followed up in Nottingham City reflects these equivocal findings.

4. Focus Groups and Interviews

We have used the RE-AIM (Reach, Effectiveness, Adoption, Implementation and Maintenance) framework to guide the questioning and that will also shape the subsequent analysis. RE-AIM recognises the importance of addressing both the individuals involved and the setting in which the initiative is delivered.

It is important to highlight that predictably there are some cases where people's narratives do not fit neatly into our predetermined categories.

Table 14. Dimensions and Definitions of RE-AIM

Dimension	Level	Definition
REACH	Individual	1. Participation rate among eligible individuals 2. Representativeness of participants
EFFICACY / EFFECTIVENESS	Individual	1. Effects on primary outcome of interest 2. Impact on quality of life and negative outcomes
ADOPTION	Setting	1. Participation rate among possible settings 2. Representativeness of settings participating
IMPLEMENTATION	Setting	1. Extent to which intervention delivered as intended 2. Time and costs of intervention
MAINTENANCE	Both	1. (Individual) Long-term effects of intervention (> 6 months) 2. (Individual) Impact of attrition on outcomes 3. (Setting) Extent of continuation or modification of intervention

Source: (adapted from) www.re-aim.org

4.1 Reach of the CHIPPS Scheme:

The final round of qualitative data collection was September 2010.

Those responsible for initiating the project in Nottingham recognise it is easier to run cycling projects in affluent middle class areas than in disadvantaged working class estates: there are more likely to be cycle routes in the former and it is generally easier to find safe routes for families/novices; and people are more likely to own, or else be able to afford, a bike. One of the

advantages of having had earlier initiatives was that there was already a bike recycling scheme to help with the envisaged problems, and further bikes were bought. Initially the focus has been on areas of high cardiovascular mortality, combined with MOSAIC measures of disadvantage.

> *What we are seeing through CHIPPS are more clients from areas with the health inequalities.* (RideWise Instructor)

But

> *Out of my CHIPPS clients, of which half have been PCT employees, they seem to be similar to RideWise clients, they all seem to have a house and a car and do not seem to be as needy. But as advocates for cycling that's the importance of it.* (RideWise Instructor)

However, the integrated health referral system in Nottingham is helping to extend the reach of the programme and there is some evidence of being able to reach into segments of the population that might be seen to be on the 'wrong' side of the health divide.

> *Something about The CHIPPS project which is different from the RideWise clients which we have all noticed is... something we've been getting a bit frustrated about as RideWise instructors. People were accessing RideWise that could probably pay for the service... so we weren't accessing anyone who lives in deprived areas. That's what other instructors have said to me as well. The CHIPPS project is hitting people we wouldn't normally get which is brilliant.* (RideWise innstructor)

> *We were doing the same thing as before, only it was being more targeted, which I began to see was a really good idea actually because the number of wealthy people we'd been training who were, I thought, didn't need things like free loan bikes and stuff and would turn up in 4x4s and offload the bike off the back, so yes it didn't take long before my initial impression dispersed.* (Cycle Instructor)

> *We weren't really accessing anyway in the kind of deprived areas so to speak, it was like if you lived in nice middle class areas and that's what other instructors have said to me as well is that the cycling for health project is hitting people that we wouldn't normally get, which is brilliant. Like JC would never have thought to phone up RideWise and say I want some cycling instruction but because a health advisor said to her you need to do some exercise, have you thought about cycling and she said oh I used to cycle to work all the time, like I haven't done it for 20 years but .. and we're hitting areas that we wouldn't normally get, which is brilliant, so people that actually appreciate the service and*

need the service more than people who are just really good at picking up free stuff. (Cycle Instructor)

Participants commented on how they had become involved in CHIPPS

The doctor referred me to the YMCA 12 week course or something, and the lady at YMCA [Physical Activity Advisor] asked me about cycling, but I said yes but I haven't got a bike, I haven't rode a bike in years. (Nottingham participant female aged 67)

My General Practitioner had mentioned about the cycling so I had to go online and apply through the YMCA to get the instructor to contact you, and that's what they did. (Nottingham participant female aged 45)

For some, all it takes to get involved is (knowledge of) the opportunity.

I bought a bike the year before and because I couldn't find anybody in the local area that did the training I decided it would stay in the cupboard so it stayed in the cupboard for a year till I saw the advert for this easy rider. (Kettering participants, females aged 65–74)

I saw it (Easy Rider) in the newspaper... I phoned up and made arrangements. (Kettering participants, females aged 65 –74)

For others there are more material barriers that need to be overcome.

All of a sudden we've got these clients saying they want cycling for health but none of them have bicycles. So they've started this bike recycling project that runs out of a homeless charity named Framework where people get trained on how to fix bikes and then given to CHIPPS clients. So, [client's name] didn't have a bicycle but really wanted to start cycling again, so I turned up with a bike for her. Here's your bike, it's yours, she almost cried on the doorstep. Ever since then we go out on a bike, its perfect... a real massive benefit for the city that we now have a bike recycling project that's come out of the CHIPPS project. (RideWise instructor)

And she asked if I was interested and I said I'm a pensioner I cannot afford to find a bike and they supplied me with one – fantastic! (Nottingham participant, female aged 67)

If you're riding a bike that you're not comfortable on, then you're not going to want to do it, because I had a larger client who borrowed one of the YMCA bikes and they had really nasty, cheap seats on them and it just hurts and I'm actually in pain on this seat...they've finally got some larger seats for people because that was actually a barrier for

him to carry on because he was uncomfortable on his bike. But it was like saying actually we can get you a seat that won't hurt at all. (Cycle Instructor)

My clients will tend to be overweight, I haven't had one that isn't and quite significantly overweight, and will tend to … and it's quite a big thing and they're not that fit at all really, and to come from no exercise and being overweight to cycling is quite a step without a kind of intermediary .. (Cycle Instructor)

4.2 Effects of the CHIPPS Scheme

The Director of Public Health in Nottingham recognises a need for behaviour change in order to have a significant public health impact. At the same time though, the intensive nature of the work constrains the number that can be accommodated/affected by the scheme. Nonetheless, perhaps not surprisingly, participants prepared to be involved in the focus groups tended to be very positive about the CHIPPS initiative.

I bought a bike which I wouldn't have done if I hadn't come on the course. I actually had a bike, which I sold because I wasn't using it because I was so wary of the roads and everything. So it's given me more confidence. I bought a bike and my husband's bought a bike as well and we both go out on bike rides. (Kettering participant, female aged over 60)

It does you good I felt so much better... I've joined a gym now! (Kettering participant, female aged over 60)

What I did is I registered and I was allocated a top notch mentor and I did my level 1 on... get used to .. signals .. emergency stops etc., etc...and then I got to about half way through level 2...which is where you were getting on to cycle on urban side streets, which is in my vicinity anyway, and we'd enjoyed it but then unfortunately I think my mentor was very busy with his post graduate thesis and so unfortunately, nobody's fault, I came to a bit of a stop. (Participant male 56)

Yes, I think it's been holistic in my case, not only physical but mentally and emotionally as well...Well I just feel sort of like I'm enjoying life more...I mean I've had alcohol problems, but the thing was my conscious decision to estrange myself from my old drinking buddies and do more positive things... Yes the good things now, I can have a drink responsibly but I don't overdo it. I mean I haven't had any alcohol now for near on 10 days. (Participant male 56)

The effects may not always be what the PCT originally hoped for. One participant we encountered on a led ride commented: 'I like cycling because I get some exercise without getting out of breath'. There may not be a great cardio-respiratory benefit as a result, but the ride was clearly contributing to her wellbeing and she did not simply return home at the end of the ride, but cycled off to her next engagement.

The cycle training has provided participants with the knowledge and skills to ride safely on roads and challenged their perceptions of risk.

> *I'd never heard of pinch points, have you heard of those? Well you get the bollard in the middle of the road and you have to look behind you, put your right arm out and say this is my bit of road; if you don't they will push you into the pavement...*
>
> *This is the hardest thing, when we went on a long cycle ride about 14 miles, and when we got to that roundabout just before Wheatley, and the gentleman [Cycle instructor] said as soon as you've gone past the roundabout, you must go into the middle of the road, and I couldn't understand that.*
>
> *That's right and that was the hardest bit and you've to look behind you so you need a certain amount of flexibility to do that, just have a quick look and if there's sufficient space, put your hand up and get there because otherwise they will try and overtake you, you've gone into the pavement.* (Kettering participants females aged 65 -74)
>
> *The roads are dangerous, but I think it's less dangerous for me because I know what I'm doing.* (Kettering female aged 62)

The cycling for health project has empowered families to promote healthy activities to younger generations.

> *Well my oldest great grandson is 6 and he got a bike last year for Christmas – 'Why don't you get one grandma?' And I want to enjoy my great grandkids it's as simple as that. And I do, I love bike riding.* (Nottingham Participant, female aged 67)
>
> *I have just been on the course and a couple of times with my young grandson and he was six and we cycled along... which I wouldn't do before [participating in EasyRider].* (Kettering Participant, female aged 73)
>
> *I taught my grandson road safety as well – took him then we went round all the quiet small roads and I showed him how to look round and turn left and stop and it was all right to carry on even though... his immediate reaction was to put his foot down because he could hear a*

car and I was going 'no carry on, carry on... the car will wait' – thinking I hope it does! But yes I taught him that... but I wouldn't have done that hadn't I been on the course. (Kettering Participant, female aged 62)

Sometimes participants have also reported increases in other physical activity behaviours and have adapted to weather conditions but still remained active.

I've been a bit more active, although because of the weather I haven't been back on the bike that often, because I don't know how to ride on a slippy road, so I've just parked it for the time being. But yes, it's encouraged me to walk a bit more, and also I come off the stop before my actual stop to walk the rest. (Nottingham Participant, female aged 45)

4.3 Adoption of the CHIPPS Scheme:

There are four distinct recruitment pathways to the CHIPPS programme:

1) In Nottingham there is a generic referral pathway which includes GPs and public health / health promotion employees who refer people to physical activity advisors, who subsequently offer a range of physical activity services including cycling;
2) The Nottingham PCT workplace intervention in which an email advert was posted to the 1,600+ employees;
3) In Kettering training is delivered through the Healthy Community Collaborative at a local community centre via volunteers and is marketed through local leaflets, posters, adverts, etc;
4) The Northampton project also accesses local communities through the Healthy Community Collaborative. This involves promoting the CHIPPS project at local events and screening clients' referral criteria (via postcode) to try to ensure a focus on those most in need. Recruitment in Kettering was co-ordinated through Age UK.

Because the funding for CHIPPS had to be secured competitively from the Department for Transport commitment was already high. Nonetheless, the partnerships between the various organisations still have to be worked at. In Nottingham the PCT was already working with the various partners of the CHIPPS scheme (city council, PCT, RideWise and YMCA) in some way, which made launching CHIPPS that much easier than it might otherwise have been. Even with those sound foundations our data suggest the project got off to a slow start. We note that successful interaction can bring appreciation of what the other partners can contribute to the overall challenge of health improvement.

> *The physical activity advisors at the YMCA, because that's what they are really good at. It might even be worth shadowing them.* (Nottingham, Health Trainer).

Difficulty recruiting participants through traditional key referral partners has been reported as an issue from one intervention.

> *I'm a bit disappointed with how we've not had any referrals from doctors, even though they've had all the information. Health trainers are not referring anybody to us, even though they've got all the information and that I think needs addressing*. (Kettering Co-ordinator, September 2010).

However, using innovative approaches to engage General Practitioners has proved a successful and worthwhile endeavour.

> *We got supported by the doctor and sponsored two different people... well lots of different people in little ways, just by lending them bikes, but then we made a special case for the doctor. We bought a racing bike, not a mega expensive one but a triad one that he could use. With that we got a lot of coverage from the papers, through sponsoring him... adverts in the surgery, on computer board... He was then at their practice meetings, giving a directive to all the doctors to hand out cycling on prescription*. (Northampton Co-ordinator)

4.4 Implementation of the CHIPPS Scheme:

Despite the previous experience of those involved in delivery, implementation was not always as expected. For example, these trainers commented on the higher level of resource inputs that had proved necessary.

> *When this was kicked about in the pre-meetings it was never envisaged that you would get people who were probably 50 years old who have never ever sat on a bike. You assume that everyone could ride a bike after some sort of a fashion.* (Nottingham, Health Trainer)

> *So when we kicked this off the group needed to be split into three or four abilities and that was difficult when there was only two of us... Some people need one-to-one for quite some time. It was never envisaged that adults would be wildly different from kids. You know you spend 15 minutes with a child and they've got it.* (Nottingham, Health Trainer).

In some cases trainers have been able to make use of resources located elsewhere in the scheme.

The YMCA having ten pool bikes is an amazing resource because people can come. It's only £1 to hire a bike for the day. (Nottingham, Health Trainer)

Implementing the CHIPPS initiative has required different skills and a different mind set for those originally trained to deliver a different kind of scheme.

With RideWise if someone does not really practise between sessions we are not really to go and see them because we are not supposed to just go for a ride with them. We are only there to instruct them on how they should be cycling or to make their cycling safer. But with CHIPPS clients we are there to get them out and that's a crossover [between a physical activity advisor and a RideWise instructor]. (Nottingham, Health Trainer)

[Working] with people who are unused to exercise and are overweight, and it's coaching. We kind of learnt through our own personal skill we've got. As cycling instructors we weren't necessarily trained in that, we haven't been given that. It wasn't part of our brief when we were trained as national cycling instructors. (Nottingham, Health Trainer)

CHIPPS has definitely put that to the forefront like you know, how you use motivational speaking like the one-on-one stuff. I didn't realise I needed to be a lot more aware of that particularly with CHIPPS clients. (Nottingham, Health Trainer)

If you set realistic milestones and they actually get there it makes them feel so, hey, you know, hey, that's great. But just to think in terms of Level 1, Level 2 or Level 3, no, it's not about that. It's more coaching than instructing. I do think it would be valuable to get some form of training. (Nottingham, Health Trainer)

One would cancel his first lesson no problem at all, at one stage for his second lesson it was rescheduled 7 times and I thought something is happening here, nice bloke, and he suffered from stress, it was nothing to do with I've got a cold, now once I found that out then I used to phone him and say are your okay?... I let him lead all the way... In other words I just listened to what he wants to do and then I would teach it, so in other words how he felt that day and how much we did, now we'd suddenly jumped from not being pretty sure on his bike, we did a lot of cycling but he wasn't very good... so I brought him from being a very stressful cyclist to someone who is willing to come into town and that's by just finding out what his problem was. (Cycle Instructor)

He made me look at it, it's not as if I haven't dealt with cycling with the type of person and motivational because I was a cycling coach, but it

made me look at it from a completely different angle that was all. (Cycle Instructor)

I go out on the road and we stop and show them the benefits of what RideWise can do, so if we can move them from the cycling for health and get them interested and they know that they may go on to have further lessons to be taught how to commute and things like that (Cycle Instructor)

Developing an understanding of the target audience has now refined the types of bikes being acquired that provide a more pragmatic approach to the styles of riding participants want to do.

Yes we've tried to change the bikes as well because a mountain bike really doesn't fit a 50 year old, for want of a better word, an overweight lady on a mountain bike, doesn't... So we've tried to get... ladies' bikes... And a couple of shoppers with the basket on. They're not going to want to ride a bike on a Saturday/Sunday morning for 25 miles for the joy of it either, but to go to the shops or it's a useful piece of kit and keeps them healthy. (Kettering Co-ordinator and Volunteer Instructor)

So you're not looking at it as a normal RideWise instruction, you have to find out what they're trying to do and if they have a problem. I've got another one, in a local area, he's black Caribbean that has street cred and they gave him a lady bike...[but] I actually had a spare mountain bike which I used for group rides and this was on a Saturday and I went back and tarted it all up, took it down and he was happy... well you don't want to make him look an idiot because this is a guy that's trying to do something, so it's not just cycle instruction, it's the person and I think that's something that doesn't come out straight away. That's how I'm viewing it at the moment and I'm new to this. (Cycle Instructor)

In the first year of the project one of the Directors of Public Health identified a set of implementation issues that need to be addressed by almost any project of this kind:

- Cycle training ability will have to be built in for trainers/providers generally
- Increase the supply of cheap bikes
- Increase the opportunities to get involved in cycling
- Marketing (in its widest sense) is needed to establish what will appeal to target populations, attract their interest and encourage their involvement.

4.5 Maintenance

From an early stage in the projects it became evident that careful thought needed to be given to what follows the initial training if participation is to be maintained.

> *It's about giving these people a sense of autonomy and the ability to take control of their lives and just do a bit of exercise without the formality of going to a gym. It's about taking them to places and getting them to see a different way of relating to the environment and not just being a bus passenger which is essentially being passive, but no, I want to go now*. (Nottingham, Health Trainer)

> *What I'm hoping to do is... with the recycled bikes put them in these community centres because of the YMCA and how well that's working... Why don't we put free bikes in places, get them stored there, get the community centres to use them as part of their activities as long as we can use them... The health trainers, or whoever else that wants to volunteer, they do the bike rides from that location... and hopefully people that have had the cycle for health training can become the bike leaders of the future.* (Nottingham co-ordinator)

> *I've had 3, I've had 7, I've had 9 and instantly they start talking and they are enjoying it straightaway so rather than it being oh I've got to do this and you show me this and .... They're getting it straightaway...I think the group one is good. They've learned some lessons going for the group rides and for me it's a step in the right direction and I think that's the way to go with it really and people do really seem to love the... finding out how to do basic bits and bobs on the bike, they seem to really enjoy that. (Cycle Instructor)*

Participants really value the cycle training programmes whether they are delivered in a group or on a one to one basis. Interestingly however, many participants reported their reluctance to cycle on their own, and would need to find a group of cyclists with the same cycling aspirations.

> *And it's nice to go in a group isn't it... I wouldn't dream of going on a bike ride on my own I wouldn't want to do it. It's nice to be with a group.* (Kettering female participants aged 62 - 76)

> *You see what I would like to do is join a group for easy riding but the one I've phoned up they're racers, like the CTC and Kettering Cycling. I phoned them up and that's just really for youngsters. So there's nothing and I think that would help tremendously.* (Kettering participant, female aged over 60)

I had a bad accident 10 years ago…I broke my arm in about 10 places … so I was on crutches for a year and a half. I couldn't walk properly for about 2 years, it was a difficult time.. I couldn't walk very far when I did get off the crutches and stuff… …I've tried running I don't really enjoy it and it puts a lot of pressure on other bones and stuff, with cycling it does not put pressure on your feet so…my feet don't hurt so the main positive to me is that the physical side, and then sort of the mental side of it is so much better because… I've lost over a stone and a half now, by cycling so… which is… I used to be about 15 stones and I'm about 13.6 or 13.7… Well I suffer from depression… I used to be really tired all the time…The tablets do work in a way but obviously it's not the answer to every thing as the doctors would say, and obviously I still have my bad days but with cycling… it's all about having something to do, keeping fit is good for the body… it's made me even more positive. (Volunteer/ Participant Male 27)

The key to future success of these schemes is not just a mechanical issue. It is important to understand the secret of the interaction in terms of what makes for a successful relationship between a trainer and the public. They might also benefit from social marketing to understand what will appeal to the public and motivate them to get involved.

5. Assessing and Reflecting

5.1 General Comments

The CHIPPS projects have been developed in very different contexts in the two locations. Essentially the Northamptonshire project has a pure health focus, working through the healthy living collaborative. In Nottingham the CHIPPS initiative is not just about health, and the physical activity referral scheme is not just about cycling but an integral part of the transport and environmental strategies as well as being seen as a way of supporting efforts to reduce dependence on Incapacity Benefit. The projects demonstrated the importance of good partnership working: where it worked well the communication of key messages helped to promote the value of cycling; in other circumstances opportunities were missed. To continue to be successful CHIPPS needs to be integrated into the strategic partnerships.

The third and final year of the evaluation has seen us as evaluators in regular contact with the partners checking on progress and setting deadlines to receive data. We have also conducted a series of interviews / focus groups that have focused on process and experiential data.

Over 3 years, we feel that we have developed a good working relationship with the various partners and communication channels have improved steadily in this period. We are also delighted with the way that both Nottingham City and Northamptonshire have acknowledged the importance of a robust evaluation and have supported us consistently in this process. This highlights the importance of investing time in the early stages of the evaluation to ensure that appropriate processes and tools are embedded in the projects. A strength of the final report is that we have been able to track longitudinal changes in behaviour which we were unable to do in last year's interim report due to missing data. We would like to commend the Nottingham team for their dedication in also collecting 18 month questionnaire data although we have not used this in the main body of the report as it was not in the original aims of the project. We do however present the data in the appendices.

5.2 Recruitment

Since the inception of the CHIPPS project, a total of 261 participants completed baseline questionnaires in Northampton and Kettering. These were mainly young to middle aged females of whom nearly one fifth had a degree and 10% had no qualifications. Not surprisingly, the vast majority were white British of which one third was in full-time employment and 23% were unemployed or retired. At baseline, 38% were in the action and maintenance phases in the Stage of Change model, showing they were already physically

active. Those joining the project reported an average of 1.0 ± 3.2 hours of cycling per week. 45% reported riding a bike in the past year. 39% reported that the biggest barrier to cycling was the perceived danger.

Nottingham recruited 228 mainly young to middle-aged female participants. One quarter had a degree and 11% had no qualifications. Nearly a half was white British with the remainder coming from BME groups. Nearly one third were in full-time employment and over one quarter of participants were unemployed or retired. At baseline, 45% were in the action and maintenance (physically active) phases. Nottingham reported an average of 0.6 ± 1.9 hours of cycling per week. 46% reported having ridden a bike in the past year. 51% reported perceived danger and having no bike (55%) as the biggest barriers to cycling.

5.3 Retention

The following data are taken from the Appendices and should not be used to infer interventional effectiveness due to the differing numbers of participants at subsequent time-points. In Northamptonshire (including Kettering) there was an average increase in cycling of 0.6 days per week and an increase of 24 minutes of cycling per day between baseline and exit. There was an average increase in cycling of 0.9 days per week and an increase of 16 minutes of cycling per day between baseline and 12 months. There was an increase of 20% in people in the active stages (action and maintenance) between baseline and exit, and an increase of 11% at 12 months. The number of people reporting that they had cycled in the last week had increased by 19% and 12% between baseline and exit and baseline and baseline and 12 months. Walking increased from 5.8 to 6.9 to 7.1 hours per week at baseline (n=261), exit (n=133), and 12 months (n=76) respectively. Cycling activity increased from 1.0 to 2.5 to 1.4 hours per week at baseline, exit, and 12 months. Major barriers to cycling at baseline were being too dangerous (39%), lack of safety knowledge (32%), and not having a bike (34%). At 12 months, major barriers included cycling being too dangerous (54%), lack of safe routes (48%), and seasonal weather changes (39%).

In Nottingham there was an average increase in cycling of 1.7 days per week and an increase of 32 minutes of cycling per day between baseline and exit. There was an average increase in cycling of 1.4 days per week and an increase of 16 minutes of cycling per day between baseline and 12 months. There was an increase of 29% in people in the active stages (action and maintenance) between baseline and exit, and an increase of 12% from baseline to 12 months. The number of people reporting that they had cycled in the last week had increased by 42% and 32% between baseline and exit and baseline and 12 months. Walking increased from 5.8 to 8.2 to 4.1 hours per week at baseline (n=228), exit (n=35), and 12 months (n=32) respectively. Cycling activity increased from 0.6 to 0.7 to 3.1 hours per week at baseline, 3 months, and 12 months. Major barriers to cycling at baseline were being too

dangerous (51%), lack of safety knowledge (50%), and not having a bike (55%). At 12 months, major barriers included cycling being too dangerous (50%), seasonal weather changes (50%), and lack of safe routes (44%).

5.4 Impact of Cycle Training

Positive attitudes towards cycling have consistently increased from baseline through to 12 months. This shows the impact of cycling-specific training. Consistent improvements in attitudes towards the benefits of cycling (beneficial, relaxing, interesting, pleasant, enjoyable) were evident in all participants from exit and this remained consistent up to 12 months. It appears that cycle training has a positive impact on attitudes towards cycling in participants engaged in the intervention.

Confidence in cycling ability at all levels (1, 2, 3) increased significantly between baseline and 12 months highlighting the importance of cycle training for improving individual confidence levels in all road situations. Motivations for engaging in cycling appear to be focused on leisure, family visits and entertainment (including shopping) compared to compulsory commuting (i.e. business) and essential trips, including the school run.

Cross-sectional data showed that cycling related physical activity consistently increased across all sites and time-points (increased number of days and minutes reported) highlighting the short and longer-term benefits of cycle-specific training on cycling adherence. It is noteworthy that other reported modes of physical activity i.e. walking consistently increased between baseline and 12 months. It appears that engaging in cycling has a beneficial impact on other modes of physical activity behaviour.

Generally, there is an increase in the number of participants actively engaged in the action and maintenance stages of physical activity readiness, demonstrating a clear move away from stages reflecting more inactive lifestyles reported at baseline. This observation illustrates a positive progression in participants' readiness to be physically active due to their engagement in cycle training however, there is a fall in physical activity readiness between 3 months and 12 months.

The focus groups have highlighted both positive and negative aspects of cycling training. There is a large shortfall in retention between baseline and exit in Northampton and Nottingham, a significant part of which may happen between baseline and first training. We note from internal reports i.e Northamptonshire KPI data that there was a large increase in the provision of guided rides in the final year of the project (Years 1-2 v 3 : 71 v 129 guided rides) and this has led to an increased attendance at guided rides from 509 (Years 1-2) to 1,047 (Year 3).

In neither Northamptonshire nor Nottinghamshire was there any real change in general activity levels, as measured by EPIC categories, because most people were already in the moderately active or active category.

5.5 Achieving Goals

Set out below is progress against the key outcomes identified by the respective projects from the outset and from later formulated key performance indicators (KPIs). KPI data supplied from internal documents of the key partners (data reported between Sept 2007 and Oct 2010).

Table 15. Target/KPI outcomes for Nottingham City and Northamptonshire

Nottingham	
Goal / KPI	*Target / Achieved*
Focus on the number of cycle trainers trained	RideWise cycle instructors: Target = 10 Achieved = 8 Health Trainers: Target = 10 Achieved = 0
Record the number of health advocates attending cycle training sessions (100) and the number of RideWise training sessions conducted (140)	55 health advocates recruited over 3 years. This target is currently under review by the Cycling for Health Co-ordinator
Increase the number of miles cycled by staff (20) and community members as a result of the programme	We have used measures of time as an alternative. There is a non-significant trend towards increased cycling activity at 12 months. However, there is a decrease in cycling activity between 3 and 12 months. Uptake from NHS staff is low with 55 of 305 (18%) "active" participants reported. Only 32 participants were still engaged after 12 months.
Determine if an improvement in health and wellbeing of staff and community members has been achieved; and to determine the impact of the programme on NHS staff and community members	52-54% of participants completing levels 1 & 2 cycling proficency training gained confidence in cycling over 12 months. There was a 6% increase in physical activity readiness in participants engaged over 12 months. Cycling proficiency – 88 participants passed Level 1; 49 passed Level 2 and 11 passed Level 3.

Northamptonshire	
Goal / KPI	*Target / Achieved*
Increase the level of physical activity of participants	In 76 participants who were still involved after 12 months longitudinal data indicate a significant improvement in the amount of cycling activity in the past week (hours of cycling activity and the number of days of cycling reported)
Increase numbers referred to and attending cycle courses and guided cycle rides	In year 1 CHIPPS recruited 40; in year 2, recruitment increased by 117 to 157; in year 3, recruitment increased by 104 to 261. (Data based on participants who completed baseline questionnaires)
Increase numbers of informal groups and buddy support systems set up	This has never been a formal part of the project
KPI 1 Number of new volunteers recruited (people who will plan / deliver / recruit others)	Target = 28 Recruited = 107
KPI 2 Number of guided rides organised	Target guided rides = 128 Actual guided rides = 200
KPI 3 Numbers of new individuals taking part in cycle training course	Target = 80 new individuals Achieved = 104 new individuals (Data only available in 2009-2010).
KPI 4 Number of participants cycling 3 months from Exit	Target = 40 participants Achieved = 59 participants (Data only available in 2009-2010).
KPI 5 Number of volunteers trained as cycle trainers	Target = 28 trainers Achieved = 28 trainers

6. Conclusion

We followed the Cycling and Health Innovative Pilot Project (CHIPPS) for three years as modes of delivery were refined and targets and indicators were modified. Clearly, throughout the emphasis has been on training adults to ride bikes, but the projects have had time to modify their delivery. Given the time it takes for any initiative of this kind to bed in, the third year of funding was of considerable benefit in allowing the projects to develop to be more responsive to need. Training has developed from a one-on-one client-instructor training to group sessions in both sites. Innovative strategies have been developed to allow both trainer and trainee to learn how to ride safely, for example, removing crank and pedals from the bike and allowing participants to safely balance whilst pushing with their feet.

6.1 Targets and Recruitment

It was known from the outset that these projects would not involve large numbers of people and targets were set accordingly. In the first year numbers were indeed small, but as we observed in Chapter 3 these had grown by the third year to involve 489 (261 + 228) participants across the different projects who completed baseline questionnaires. The projects proved successful in recruiting a largely middle aged profile and proved markedly more popular with women than men, not what was originally intended. The projects were probably less successful than they had hoped for in 'bridging the health divide' by attracting people from the more disadvantaged backgrounds (as a whole the participants were relatively well educated , for example), but still enough for the RideWise workers in Nottingham to comment on the very different class composition from their normal clientele. In Northamptonshire our respondents suggested that while participants initially came from more affluent areas that gradually changed through the course of the project. And both projects have certainly been successful in appealing to ethnic groups beyond the white British majority of the respective local populations. The major shortfall against original plans lay in the attempt in Nottingham to engage the health professionals; only 55 out of approximately 1600 employees engaged (according to internal data-sets). A lesson to be learned from these two projects is that engaging people from "hard to reach groups" might best be achieved through the use of trained intermediaries recruited from their peers in the local community.

In order to maximise recruitment, projects should use whichever health, environment, and cost benefits that appeal to individuals.

The data from the questionnaires show that there was an increase in cycling activity at exit, 3 months and 12 months compared with the baseline measures provided before training started. In Nottingham these were quite

impressive, but because there were relatively few responses the increases were not sufficiently large to prove statistically significant. Although the findings in Northamptonshire were statistically significant they reflected smaller increases. Measures of more general physical activity showed no real change either. What did increase markedly was the cycling confidence of the participants. The obvious question then is, if confidence is so clearly increasing why does activity not increase in line with that? It seems that it is the group activity that has increased confidence and people enjoy going to join the group, but that is their cycling activity for the week and it is not extended into their leisure lives more generally.

Combining the questionnaire data with registers of attendance we know that many who 'signed-up' for CHIPPS training never made it to their first session. In terms of the stages of change model something had happened to get them to the preparation stage, but that did not convert into activity. Nonetheless, to establish a baseline for assessing the consequences of the delivery (e.g. in relation to confidence, skills and activity levels, data need to be gathered at the first session actually attended.

We recorded how the projects in both PCTs had success in recruiting guided ride leaders, but whereas Northamptonshire also managed to train several people as trainers, Nottingham found this more difficult.

Concerned with legacy, one of the goals of the Northamptonshire project was for participants to 'graduate' to local cycling clubs or less formal buddying / group arrangements, however there are no casually recreational clubs for them to become a part of, most cycle clubs require a pace and distance that are beyond most graduates of these projects. One of the key challenges is to embed cycling into peoples' everyday lives.

6.2 What Works?

The projects have provided some valuable insights into what constitutes good practice.

The CHIPPS projects have shown the importance of an adequate investment phase to get appropriate procedures and practices established. Short term funding inhibits the chance to develop and refine procedures; the third year of funding for CHIPPS allowed models to be developed and momentum to build up as more people progressed through the system and alliances were developed. Adaptations were facilitated by regular review meetings that allowed goals and targets to be reviewed in the light of project monitoring reports and feedback from the researchers' evaluation.

The experience of Nottingham has emphasised the value of an integrated referral network and of being able to use cycling enthusiasts rather than health professionals who may not have the necessary skills or interest to

promote cycling. The Northamptonshire project offers future projects an alternative model of recruitment using local groups able to exploit community networks.

For such projects to be successful it is vital that there is a proper appreciation of the training needs of potential participants. Trainers found that some need more basic training than that suggested by Level 1 of the CTC scheme; there has to be support through which those who have never ridden can learn to ride. Classes then need to be graded, starting on enclosed areas off-road, then on near deserted roads (like an industrial estate on a Saturday morning before moving on to quiet roads). Currently cycle training appears to be technically-based, i.e. learning how to ride safely. It is clear that some participants have never previously ridden a bike, so trainers spend much of their time on a one-to-one basis getting these clients to a safe level of proficiency that allows them to be autonomous. Specific training workshops should be offered to novices who initially should be separated from more experienced cyclists until a requisite level of cycling proficiency has been achieved. At that stage both projects have established that although some one-to-one attention may be necessary at the outset, group classes are not only more efficient but also provide a valued social element and a chance to establish support networks. Motivation and confidence have consistently been raised in the questionnaire feedback as barriers to increased cycling, so workshops might usefully be developed around a behavioural training element. Moreover, there may be a need for "top up" training to build confidence for cycling on busy roads.

Not surprisingly, participants in both Northamptonshire and Nottingham reported that having no bike was a barrier to cycling. Clearly this is something that cycling schemes need to address from the outset. Emerging practice would indicate that this could be achieved by:

- teaming up with *Framework*, a social enterprise that recycles bicycles, ensures a steady supply
- placing at least one bicycle in every community centre also helps to address some of the obvious problems although the service can only work if it is well publicised
- hiring out cycles through the YMCA for a nominal daily rate.
- Teaming up with *Rebike, a* charity who recondition bikes and provide bike libraries for the Easy Rider projects. Individuals can be trained in maintenance skills and following 5 weeks of training, are encouraged to purchase reconditioned cycles at a highly discounted price.

For cycling initiatives to claim to be truly successful they cannot be entirely time limited; there needs to be something that continues into the future. The experience of both projects emphasises the need to train trainers in order to leave a legacy.

So, on the basis of our involvement with the CHIPPS projects we have tried to summarise below what is needed to make a successful project.

Table 16. Learning from Success – the making of a successful project
Establishing an integrated referral network with pathways from a range of professionals both within and outwith the health service
Sufficient trainers – training the trainers to increase capacity
Properly resourced – a bike "library" with a varied resource pool
Providing maintenance skills – keeping bikes on the road and safe
Social engagement – fostering conviviality, camaraderie, team and safety
Exit strategy – looking to maintenance of cycling activity

And for a successful accompanying evaluation there need to be effective evaluation procedures beyond the data capture at baseline.

6.3 What Next for CHIPPS?

So what of the future?

One of the key interests as the projects developed was sustainability. This has two dimensions: the continued activity of participants (adherence); and the continuation of the provision once central government funding came to an end. In terms of the first, once they had settled into their practices the projects successfully recruited participants and activity levels did increase, but the project teams will probably be disappointed that more of this did not persist over 12 months. The post-project period is an important time in which the projects need to find some way of encouraging continued participation when participants are looking for new cycling opportunities and support structures within their local community.

In terms of the second, the cutbacks in public funding do not come at a good time for securing the future of these initiatives. However, both projects report hopefully on the possibilities of social enterprises linked to GP referrals as well as opportunities that may accrue from greener transport policies. Whatever emerges in the wake of CHIPPS will have to negotiate the upheaval from the demise of PCTs and the opportunities offered by the transfer of public health responsibilities to local authorities. However, amidst the current confusion and local authority cut backs there seems to be a somewhat ambivalent attitude regarding the continuation of these initiatives. For example one senior officer in Nottingham observed:

> *We're not talking about a huge amount of resource and it could be we think that maintaining that choice of options for physical activity might well have benefits that justify that level of resource… Whether it*

will ever be a service that can really make a significant impact on our targets or not, I'm not sure.

There is a need to make sure that initiatives to promote cycling are fully synchronised with efforts to increase physical activity; i.e. people should be offered the opportunity most likely to get and keep them active.

Instead of asking 'What do we need to do to get people cycling?' the approach adopted here invites a series of questions by recognising the different stages involved in changing behaviour:

- What can we do to get people's attention?
- Having got their attention how can we persuade them cycling might be for them?
- What will it take to get them actually cycling?
- How can we encourage them to make it part of their 'normal everyday lives'?
- What will it take to keep them cycling once our intervention is withdrawn?

Moreover, it recognises that there are very different types of people in any local authority area with very different attitudes to physical activity.

Crucially, the data from this evaluation also demonstrate the need for something to be in place to prevent the loss of hard won gains between 3 and 12 months after participation in initial training.

7. Coda: Project legacies

The two projects have identified a range of legacies that will be sustained after the 3 years of funding.

7.1 Northamptonshire

The legacy reported from the Easy Rider project can be seen in:

1. An Easy Rider Cycle club has been constituted and is now applying for funding to sustain and improve the club.
2. It is affiliated to the Cyclists' Touring Club (CTC).
3. It has a pool of resources including a covered cycle trailer and various bikes for loan.
4. A 'cycle map' was developed for Northampton town which is available in a hard copy or downloadable format and similar maps are now available for other areas in the county from the County Council website. (http://www.northamptonshire.gov.uk/en/councilservices/Transport/walking/Pages/CycleLeafletsGuides.aspx)
5. There is 'brand' recognition of the Easy Rider scheme across the county.
6. Northamptonshire Sport is hosting some of the cycle trainers as 'cycle coaches', providing marketing, advertising, and administrative support.
7. Project management opportunities that stand CHIPPS project staff in good stead for future initiatives.

7.2 Nottingham City

In Nottingham the following elements were reported:

1. A set of networks involving RideWise with employer groups, environmental groups, schools, NHS, other parts of the council, and community groups.
2. A network of voluntary leaders
3. Cycling for Health training incorporated into Public Health service level agreement.
4. Spin off projects in the shape of a rural rides programme and the Framework housing association recycling scheme that involves service users with mental health and addiction issues.
5. Improved systems in RideWise including referrals and recruitment.
6. Closer links between RideWise and Health Trainer hubs.
7. A transition fund to: develop a corporate offering for the health and well being of staff; develop a volunteer network; improve monitoring; develop recycling projects in local neighbourhoods.

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Appendix 1. Baseline Questionnaire

Cycling For Health Project : Nottingham City PCT

Cycling and Health Innovative Pilot Project (CHIPPS) Evaluation Form

CLIENT CONSENT

Introduction
Please help us to complete this form which will allow us to understand your cycling thoughts and habits.

We want to find out what support you feel you need to take up and continue cycling in your local area.

What do you need to do?
Agree to participate in the project by **signing** the 'informed consent form' (next page).

Then we'll ask you a series of questions grouped into themes:

- **General lifestyle and cycling habits**
- **Your feelings towards cycling**
- **Some questions about you**

We estimate that we will need about 15 minutes of your time to complete this evaluation form.

PLEASE NOTE: *This information will be used in confidence and not passed on to any outside agencies.* ***All information collected will be kept strictly confidential*** *and only used by those involved directly with the project. Any information that leaves designated sites or Leeds Metropolitan University (the project evaluators) will have personal information removed so that you cannot be identified from it.*

I hereby give my consent for this information to be used for evaluation purposes as described.

Signature:…….....

Name (block capitals)…….....….....

Signature of Interviewer:…….....…..……..…
(as witness)

Name (block capitals)…….....……

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Cycling For Health Project: Physical Activity and Cycling Questionnaire

Note: Before asking these questions, the participant must have read & signed the informed consent sheet and agreed to take part in the evaluation.

Interviewer: Please read out statements to all questions

PART 1. General Lifestyle and Cycling Habits

Q1. During the last week, how many hours did you spend on each of the following activities?

Interviewer: **Please enter a number** You can put in ½ hours using 0.5	Put **'0'** if none If unsure probe for best estimate	**Hours per week**
Walking, including walking to work, shopping and leisure		
Cycling, including cycling to work and during leisure time		
Gardening		
Housework such as cleaning, washing, cooking, childcare		
Do-it-yourself		
Other physical exercise such as keep fit, aerobics, swimming, jogging and playing sport		

Q2. In a typical week during the past year did you practice any of these activities vigorously enough to cause sweating or a faster heartbeat?

Please circle either Yes or No Interviewer: Put **'NO'** if unsure

YES	1	NO	2

Interviewer: If the client has answered **YES** for Question 2, **ASK Question 3.**
OTHERS **SKIP TO Question 4**

Q3. How many hours per week in total did you practice such vigorous physical activity?

Put **'0'** if none If unsure probe for best estimate

Q4. Please indicate which statement best describes how you feel about physical activity Please circle **only one** number	
Not physically active and don't intend to become active in the next six months	1
The amount of activity varies: sometimes I am physically active, other times I am not.	2
Not very physically active, but thinking about increasing the amount of activity I take in the next six months.	3
Physically active on most days, but I have only begun to be so within the last six months.	4
Physically active on most days, and have been so for longer than six months.	5
A year ago I was physically active on most days, but in the last few months I have been less active.	6

Hours Per Week	

PART 2. Your Feelings Towards Cycling

Q5. When was the last time you rode a bike Please circle **only one** number

In the last week	In the last month	In the last year	In the last five years	More than five years ago	Never ridden a bike
1	2	3	4	5	6

Interviewer: If the participant has **'Never ridden a bike'** skip to Question **12**

Q6. Which of the following statements best describes you?

Would you say you are..... Please circle **only one** number

New to cycling	Starting to cycle again	Occasional cyclist	Experienced, occasional cyclist	Experienced regular cyclist	Don't know

Q7. What type of cycling would you like to do more of? Please circle the ones appropriate	
Commuting (Cycle to and from work)	1
Business (Cycling as part of your work)	2
Education (Cycling to college / university etc)	3
Escort Education (Cycling with the kids to school)	4
Escort other (Cycling with the kids to other destinations)	5
Shopping (Cycling to the shops)	6
Personal Business (Cycling around town etc)	7
Visiting friends / family	8
Sport / entertainment	9

1	2	3	4	5	6

Holiday / day trip / other	10

Interviewer: If the participant has **'Cycled in the last week'** relating to Question **5,** ask Questions **8 to 11**. Others skip to Question **12**

Q9. And for how long in total did you usually cycle on one of those days?

PUT 0 IF NONE If unsure probe for best estimate

Minutes cycled per day	

Q10. Did you cycle to any of these destinations in the last week?

Please circle a number for each	YES	NO
Work / College / University	1	2
Local Shops or Town	1	2
Local Trails/ Countryside	1	2

Q11. On how many days did you cycle to these places in the last week?

Only ask this question if **Q10 was answered**	Days in the last week
Work / College / University	
Local Shops or Town	
Local Trails/ Countryside	

Q8. You just said you had cycled in the last week.
Thinking about the last seven days, on how many days did you cycle?

PUT 0 IF NONE If unsure probe for best estimate

Days in the last week	

PART 3. Type and amount of physical activity involved in your work

Q12. Please tell me what best corresponds to your present activities from the following five possibilities

Please circle as appropriate

Interviewer: If respondent has more than one job, take the one they spend the most time doing

I am not in employment (e.g. retired, retired for health reasons, unemployed, full-time carer etc)	1
I spend most of my time at work sitting (such as in an office)	2
I spend most of my time at work standing or walking and my work does not require much intense physical activity (e.g. shop assistant, hairdresser, security guard, childminder etc)	3

Q14. Please give me a number that is the closest to how you feel about cycling

Please circle **only one** number

Enjoyable	1	2	3	4	5	Unenjoyable
Interesting	1	2	3	4	5	Boring
Pleasant	1	2	3	4	5	Unpleasant
Relaxing	1	2	3	4	5	Stressful
Beneficial	1	2	3	4	5	Harmful

My work involves definite physical effort including handling of heavy objects and use of tools (e.g. plumber, electrician, carpenter, cleaner, hospital nurse, gardener, postal delivery workers etc)	4
My work involves vigorous physical activity including handling of very heavy objects (e.g. scaffolder, construction worker, refuse collector, etc)	5

Q13. Could you please tell me if any of the following statements have stopped you from cycling in the past?	Please circle as appropriate
Lack of facilities at work (safe cycle storage, showers)	1
Lack of cycling partner	2
Lack of interest in cycling	3
Lack of time	4
Too dangerous / busy roads	5
Lack of safe routes	6
Other Social Activities	7
Injury	8

Q15. Please give me a number from 1 to 5 that best describes how confident you are that when you are cycling

(1 = Not Very Confident and 5 = Very Confident)

Please circle **only one** number	**Not Very Confident**	**1**	**2**	**3**	**4**	**5**	**Very Confident**
I can control a bike including starting and stopping safely and can carry out basic manoeuvres and use the gears when not on the road.	1	2		3		4	5
I can control a bike including starting and stopping safely and can carry out basic manoeuvres and use the gears on quiet roads with little traffic.	1	2		3		4	5
I can control a bike in a variety of traffic conditions and complex road situations competently, making on the move	1	2		3		4	5

risk assessments to avoid hazards.					

Q16. Please give a number from 1 to 5 that best describes how much support to cycle you have from the people around you.

(1 = No Support and 5 = Lots of support)

Please circle **only one** number	**No Support**	**1**	**2**	**3**	**4**	**5**	**Lots of Support**
Spouse / Partner	1	2		3		4	5
Close Relatives	1	2		3		4	5
Friends	1	2		3		4	5
Colleagues (people you work with)	1	2		3		4	5

Part 4. About You

Please help us with this section so we can make sure we are providing the right support for cycling in your area

- We need to take personal details, so that the results among different groups can be compared.
- The results are only reported back as statistics (based on the replies of several people) and all your answers will remain confidential.
- These answers are important as they give us a wider understanding of how to support cyclists from different backgrounds and needs

Q17. Gender

Interviewer: Please circle appropriate number

Male	1
Female	2

Q18. In which of the following age bans do you fall? Please circle appropriate number

16 -24	1
25-34	2
35-44	3
45-54	4
55-64	5
65-74	6
75+	7

Q19. Are you registered Disabled

Please circle appropriate number

Yes	1
No	2

Q20. What is the occupation of the main income earner?

Interviewer write in	

Q22. Could you please give me your ethnicity?

Interviewer: If client says other, please specify in adjacent box

Please circle appropriate number

White	
British	1
Irish	2
Any other White background **Please specify**	3
Mixed	
White and Black Caribbean	4
White and Black African	5
White and Asian	6
Any other mixed background **Please specify**	7
Asian or Asian British	
Indian	8
Pakistani	9
Bangladeshi	10
Any other Asian background **Please specify**	11
Black or Black British	
Caribbean	12
African	13
Any other Black background **Please specify**	14
Other ethnic categories	
Chinese	15
Any other ethnic category **Please specify**	16
Not stated	
Z Not stated	17

Q23. Can you tell me which of the following best describes your current work status?

Please circle appropriate number

Working full time (30+ hrs)	1
Working part-time (9-29 hrs)	2
Working part time (less than 9 hours)	3
Unemployed (seeking employment)	4
Not in paid work (not seeking employment)	5
Retired	6
Student	7

Q24. Can we contact you again to ask a few more questions when you have done the cycling course? Please circle appropriate number	
Yes	1
No	2

If you have answered YES to the above question (Q24) **Please confirm your phone number** (This will not be used for any other purpose other than to ask you some follow up questions about cycling)	
Tel :	
Mob:	

THANK YOU FOR YOUR TIME

Appendix 2

Summary findings of questionnaires at different time-points – Northamptonshire (Northampton adn Kettering; data= % and mean ± SD)

Variables	Baseline	Exit	3 months	12 months
Sample size	261	133 (51%)	110 (42%)	76 (29%)
1. Current activity				
Walking	5.8 ± 7.1 hours	6.9 ± 10.8 hours	7.3 ± 8.3 hours	7.1 ± 7.0 hours
Cycling	1.0 ± 3.2 hours	2.5 ± 6.8 hours	2.7 ± 6.7 hours	1.4 ± 2.6 hours
Gardening	1.2 ± 2.4 hours	2.4 ± 7.9 hours	1.8 ± 3.6 hours	1.7 ± 3.6 hours
Housework	6.9 ± 10.7 hours	8.3 ± 11.1 hours	8.1 ± 9.5 hours	7.4 ± 8.7 hours
DIY	0.8 ± 2.0 hours	0.7 ± 1.7 hours	0.6 ± 1.4 hours	0.6 ± 2.2 hours
Other exercise	1.5 ± 3.6 hours	2.0 ± 8.2 hours	2.9 ± 10.0 hours	1.3 ± 1.8 hours
2. Vigorous activity	Yes 64% No 31%	Yes 81% No 19%	Yes 77% No 23%	Yes 78% No 22%
3. Hours per week	3.7 ± 6.3	5.3 ± 8.2	6.9 ± 9.6	4.2 ± 8.5

4.				
Stages of change				
pre-contemplation	1%	1%	3%	0%
contemplation	18%	22%	23%	20%
preparation	26%	17%	14%	19%
action	8%	16%	11%	6%
maintenance	30%	42%	43%	43%
relapse	8%	3%	6%	11%
5.				
Cycling history				
In the last week	25%	54%	51%	37%
In the last month	7%	24%	25%	23%
In the last year	13%	14%	21%	38%
In the last five years	10%	2%	1%	1%
More than 5 years ago	25%	4%	2%	1%
Never ridden a bike	14%	2%	0%	0%
6.				
New to cycling	14%	22%	13%	14%
Starting to cycle again	38%	36%	32%	21%
Occasional cyclist	15%	18%	28%	32%
Experienced, occasional	8%	13%	14%	16%
Experienced, regular	6%	7%	11%	15%
Don't know	7%	4%	4%	3%
7.				
Commuting	20%	25%	19%	21%

Business	3%	4%	4%	4%
Education	7%	5%	4%	4%
Escort education	5%	5%	3%	3%
Escort other	9%	18%	18%	11%
Shopping	24%	33%	24%	30%
Personal business	23%	24%	20%	17%
Visiting friends/family	31%	46%	38%	39%
Sport/entertainment	36%	44%	45%	41%
Holiday	37%	58%	50%	58%
8. Cycling in last week	1.1 ± 1.9 days	1.7 ± 1.6 days	2.0 ± 1.6 days	2.0 ± 1.9 days
9. Minutes cycled per day	28 ± 51 minutes	52 ± 45 minutes	54 ± 43 minutes	44 ± 34 minutes
10. Cycling destinations				
Work	8%	8%	12%	8%
Local shops	13%	24%	14%	13%
Local trails/countryside	12%	31%	21%	21%
11. Days cycling to these places?				
Work	3.3 ± 1.8 days	2.4 ± 1.6 days	2.9 ± 1.8 days	1.9 ± 2.3 days
Local shops	2.7 ± 2.0 days	2.1 ± 1.5 days	1.8 ± 1.3 days	1.2 ± 1.3 days

Local trails/countryside	1.8 ± 1.4 days	1.7 ± 1.6 days	1.8 ± 1.4 days	1.5 ± 1.2 days
12. Working activities?				
Not in employment	41%	38%	36%	31%
Sitting at work	26%	33%	29%	31%
Standing/walking at work	13%	15%	19%	25%
Physical effort at work	10%	12%	16%	12%
Vigorous p.a at work	2%	2%	1%	1%
13. Cycling barrier?				
Lack of facilities at work	7%	11%	5%	13%
Lack of cycling partner	13%	23%	29%	33%
Lack of interest	11%	9%	9%	10%
Lack of time	20%	28%	29%	39%
Too dangerous	39%	49%	61%	54%
Lack of safe routes	28%	37%	42%	48%
Other social activities	5%	12%	10%	13%
Injury	7%	10%	10%	17%
Lack of safety knowledge	32%	38%	39%	29%
Seasonal weather changes	12%	21%	32%	39%
Stress	4%	5%	8%	10%
Family responsibilities	12%	21%	24%	25%
Health problems	13%	15%	14%	0%
No bike	34%	35%	35%	10%
14. Cycling feelings?				

Enjoyable	56% (1 and 2)	82% (1 and 2)	84% (1 and 2)	72% (1 and 2)
Interesting	52% (1 and 2)	77% (1 and 2)	76% (1 and 2)	57% (1 and 2)
Pleasant	72% (1, 2 or 3)	94% (1, 2 or 3)	95% (1, 2 or 3)	93% (1, 2 or 3)
Relaxing	65% (1, 2 or 3)	87% (1, 2 or 3)	90% (1, 2 or 3)	81% (1, 2 or 3)
Beneficial	67% (1 and 2)	87% (1 and 2)	88% (1 and 2)	86% (1 and 2)

15.
Cycling confidence?

Basic control of bike				
	38% lacking confidence	22% lacking confidence	26% lacking confidence	23% lacking confidence
	13% confident	19% confident	14% confident	18% confident
Control of bike with little traffic				
	43% lacking confidence	31% lacking confidence	26% lacking confidence	25% lacking confidence
	13% confident	23% confident	23% confident	17% confident
Control of bike in complex road situations				
	56% lacking confidence	49% lacking confidence	46% lacking confidence	51% lacking confidence
	10% confident	24% confident	21% confident	13% confident

16.
Social support for cycling?

Spouse/partner				
	34% No support	27% No support	26% No support	28% No support

8% Support	18% Support	14% Support	17% Support
Close relatives			
38% No support	32% No support	30% No support	46% No support
9% Support	18% Support	16% Support	14% Support
Friends			
37% No support	27% No support	32% No support	29% No support
9% Support	14% Support	11% Support	14% Support
Colleagues			
39% No support	47% No support	46% No support	58% No support
9% Support	10% Support	13% Support	11% Support

At baseline = 65% females; age range 35-54 years (43%); 55-74 years (25%); educational attainment – 14% A-levels, 18% degree, 10% no qualifications; ethnicity – 69% White, 9% African/Caribbean, 5% Asian, 18% Other; 32% FT employed, 14% PT employed, 13% retired; 10% unemployed.

Summary findings of questionnaires at different time-points – Nottingham (data= % and mean ± SD)

Variables	Baseline	Exit	3 months	12 months	18 months
Sample size	228	35 (15%)	22 (10%)	32 (14%)	20 (9%)
1. Current activity					
Walking	5.8 ± 7.0 hours	8.2 ± 6.1 hours	8.0 ± 11.2 hours	4.1 ± 3.2 hours	6.0 ± 8.2 hours
Cycling	0.6 ± 1.9 hours	-	0.7 ± 1.0 hours	3.1 ± 7.5 hours	2.9 ± 4.9 hours
Gardening	1.0 ± 1.9 hours	3.2 ± 4.2 hours	0.7 ± 1.5 hours	1.1 ± 1.6 hours	1.6 ± 3.5 hours
Housework	7.6 ± 8.8 hours	0.9 ± 1.7 hours	8.2 ± 6.7 hours	0.2 ± 0.4 hours	5.1 ± 5.4 hours
DIY	1.0 ± 3.4 hours	0.4 ± 1.2 hours	0.9 ± 1.5 hours	-	0.5 ± 0.7 hours
Other exercise	1.9 ± 3.1 hours	1.9 ± 2.0 hours	2.2 ± 2.8 hours	2.0 ± 3.0 hours	2.5 ± 3.1 hours
2. Vigorous activity	Yes 64% No 36%	Yes 83% No 17%	Yes 91% No 9%	Yes 91% No 9%	Yes 95% No 5%
3. Hours per week	3.6 ± 4.7	4.6 ± 5.3	4.0 ± 6.3	3.3 ± 2.4	4.6 ± 3.0
4. Stages of change pre-contemplation	-	-	-	-	5%

contemplation	17%	14%	17%	22%	24%
preparation	34%	6%	4%	13%	10%
action	17%	37%	9%	19%	10%
maintenance	28%	37%	52%	38%	43%
relapse	5%	6%	17%	9%	10%
5.					
Cycling history					
In the last week	21%	63%	39%	53%	52%
In the last month	10%	31%	26%	13%	10%
In the last year	15%	6%	35%	31%	33%
In the last five years	11%	0%	0%	3%	5%
More than 5 years ago	26%	0%	0%	0%	0%
Never ridden a bike	18%	0%	0%	0%	0%
6.					
New to cycling	25%	23%	9%	3%	0%
Starting to cycle again	49%	23%	13%	19%	10%
Occasional cyclist	11%	11%	39%	34%	33%
Experienced, occasional	10%	23%	22%	16%	24%
Experienced, regular	4%	20%	17%	28%	33%
Don't know	1%	0%	0%	0%	0%
7. Cycling to do more of?					
Commuting	30%	50%	31%	25%	40%
Business	12%	14%	31%	10%	10%
Education	11%	11%	9%	12%	5%
Escort education	11%	16%	27%	8%	5%
Escort other	22%	31%	31%	25%	15%
Shopping	44%	69%	64%	38%	60%

Personal business	29%	46%	46%	22%	25%
Visiting friends/family	54%	57%	77%	44%	60%
Sport/entertainment	58%	63%	91%	59%	60%
Holiday	51%	74%	73%	53%	75%
8. Cycling in last week					
	1.0 ± 1.7 days	2.7 ± 2.3 days	1.3 ± 1.9 days	2.4 ± 1.9 days	2.4 ± 1.9 days
9. Minutes cycled per day					
	29 ± 45 minutes	61 ± 64 minutes	23 ± 27 minutes	45 ± 30 minutes	55 ± 31 minutes
10. Cycling destinations					
Work	6%	14%	0%	24%	30%
Local shops	11%	37%	24%	27%	35%
Local trails/countryside	6%	29%	10%	20%	20%
11. Days cycling to these places?					
Work	3.7 ± 1.6 days	2.6 ± 1.9 days	-	2.8 ± 1.9 days	3.5 ± 2.0 days
Local shops	1.8 ± 1.1 days	2.6 ± 2.1 days	1.4 ± 0.9 days	2.2 ± 1.6 days	3.1 ± 2.5 days
Local trails/countryside	1.4 ± 0.6 days	2.1 ± 1.1 days	0.8 ± 0.5 days	1.0 day	1.3 ± 0.5 days
12. Working activities?					
Not in employment	45%	34%	22%	26%	38%
Sitting at work	22%	29%	39%	48%	38%
Standing/walking at work	22%	23%	39%	19%	14%
Physical effort at work	9%	14%	-	7%	10%
Vigorous p.a at work	1%	-	-	-	-

13.
Cycling barrier?

Lack of facilities at work	13%	14%	10%	10%	20%
Lack of cycling partner	25%	37%	33%	10%	35%
Lack of interest	16%	11%	10%	20%	15%
Lack of time	33%	43%	52%	31%	25%
Too dangerous	51%	57%	64%	50%	72%
Lack of safe routes	42%	40%	41%	44%	40%
Other social activities	11%	23%	24%	12%	0%
Injury	10%	11%	5%	32%	20%
Lack of safety knowledge	50%	54%	41%	32%	25%
Seasonal weather changes	37%	50%	59%	50%	80%
Stress	15%	11%	20%	16%	0%
Family responsibilities	22%	14%	41%	16%	0%
Health problems	20%	23%	20%	25%	25%
No bike	55%	50%	41%	32%	15%

14.
Cycling feelings?

Enjoyable	73% (1 and 2)	91% (1 and 2)	78% (1 and 2)	78% (1 and 2)	-
Interesting	74% (1 and 2)	94% (1 and 2)	78% (1 and 2)	81% (1 and 2)	-
Pleasant	94 % (1, 2 or 3)	100% (1, 2 or 3)	100% (1, 2 or 3)	97% (1, 2 or 3)	-
Relaxing	83% (1, 2 or 3)	94% (1, 2 or 3)	96% (1, 2 or 3)	94% (1, 2 or 3)	-
Beneficial	86% (1 and 2)	97% (1 and 2)	91% (1 and 2)	94% (1 and 2)	-

15.
Cycling confidence?

Basic control of bike

48% lacking confidence	13% lacking confidence	9% lacking confidence	13% lacking confidence	-
13% confident	14% confident	13% confident	13% confident	-

Control of bike with little traffic				
50% lacking confidence	23% lacking confidence	13% lacking confidence	9% lacking confidence	-
13% confident	20% confident	30% confident	19% confident	-
Control of bike in complex road situations				
74% lacking confidence	51% lacking confidence	48% lacking confidence	41% lacking confidence	-
8% confident	14% confident	13% confident	9% confident	-
16.				
Social support for cycling?				
Spouse/partner				
36% No support	30 No support	38% No support	28% No support	-
10% Support	17% Support	19% Support	12% Support	-
Close relatives				
43% No support	29% No support	47% No support	43% No support	-
12% Support	11% Support	16% Support	13% Support	-
Friends				
41% No support	26% No support	46% No support	28% No support	-
16% Support	23% Support	32% Support	19% Support	-
Colleagues				
53% No support	32% No support	40% No support	38% No support	-
14% Support	14% Support	7% Support	21% Support	-

At baseline = 75% females; age range typically 35-54 years (60%); educational attainment – 14% A-levels, 23% degree, 11% no qualifications; ethnicity – 45% White, 25% African/Caribbean, 14% Asian, 16% Other; 28% FT employed, 18% PT employed, 10% retired; 17% unemployed.