

**School for Public Health Research**



***National Institute for***

***Health Research***

Evaluating the Public Health Outcomes of the Cambridgeshire Time Credits Project

Working paper 4

The potential for Time Credits to generate public health outcomes – a conceptual model

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# The evaluation

The Public Health Practice Evaluation Scheme (PHPES) enables people who are introducing innovative public health initiatives to work in partnership with the National Institute for Health Research School for Public Health Research (NIHR SPHR) to conduct rigorous evaluations of their effectiveness. This scheme is particularly focused on local initiatives.

The aim of the evaluation of the public health outcomes of the Cambridgeshire Time Credits project in Wisbech is to determine its potential to tackle social exclusion, loneliness and deprivation and to assess the extent to which it can reduce health inequalities. The Cambridge Centre for Housing and Planning Research (CCHPR) is carrying out this research in collaboration with the Cambridgeshire County Council Community Engagement Team, Spice, and the Cambridge Institute of Public Health (CIPH).

The research uses a mixed methods approach that engages service users, practitioners and policy makers through interviews, surveys, focus groups and ethnographic research methods. One of the key research objectives is to analyse how this type of project can best secure positive health outcomes and how it could be sustainably established in other localities, should these benefits be demonstrated.

The main outputs will consist of an interim and final report with research findings detailing project outcomes for individuals, organisations and the wider community, disseminated in a range of accessible formats, e.g. a film, and a user guide aimed at local authorities, those commissioning and delivering health and social care services and those involved in establishing Time Credit projects.

For more information about the evaluation please contact Dr Gemma Burgess on [glb36@cam.ac.uk](mailto:glb36@cam.ac.uk) or 01223 764547.

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# Introduction

This report is part of a series of Working Papers, each of which focuses on a separate aspect of the research[[1]](#footnote-1). The first Working Paper provided an overview of time banking and Time Credits, how they work, the benefits associated with time banking and Time Credits, and their key characteristics and core values. The second two working papers examined the concept of co-production, one in relation to co-production in research and one in relation to co-production in service provision.

The key objective of this Working Paper is to explain our rationale: how we expect the different activities associated with earning and spending Time Credits to generate public health outcomes and reduce health inequalities. It seeks to provide a user-friendly and easily accessible illustration of how the activities associated with earning and spending Time Credits may work towards positive health outcomes.

Spice Time Credits are a tool for building stronger communities and for delivering co-produced services. The Spice model is driven by a vision of wellbeing and social cohesion, and uses Time Credits as a way of recognising and celebrating the time people spend volunteering with a local organisation, community group, volunteer group or a statutory sector service provider. In exchange for their contribution, the volunteers ‘earn’ a Time Credit note, one for every hour they give. These can be ‘spent’ on a range of leisure and other opportunities, typically donated by organisations, local businesses and corporations to allow the community members to take advantage of their spare capacity (Apteligen 2015; Weaver et al, 2015), they can also be spent on activities run by other community members, on activities at the organisation they were earned with, and to trade time and skills with other individuals.

The processes and pathways described in this model have been informed by a combination of our knowledge of how the Time Credits model works and existing evidence of the ways in which health and wellbeing are influenced by circumstances, social relationships, and the environment. As such, this is a conceptual model of how Time Credits may *potentially* generate, or contribute to, positive health outcomes.

The purpose of this model is to inform and guide the empirical research. It is not a factual representation of a process we know to take place – the empirical evidence to support this model is yet to be collected. The aim of this report is to explain the logic that has guided the design of the methodology and field tools rather than to report findings. At this stage of the research, it is not yet known how accurately the pathways described here represent the reality in Wisbech.

The discussion in this paper is organised thematically, in relation to specific types of outcomes, rather than in relation to specific activities. The report has been divided into four sections. Section 1 of this report provides an overview of the model. Section 2 focuses on personal level outcomes associated with Time Credit activity. These include the health benefits derived from engagement in a meaningful activity, a more active lifestyle and acquiring new skills and experience. Section 3 focuses on the health benefits accrued from social participation. Section 4 looks at how the benefits arising from Time Credits may spread across communities, influencing the health and wellbeing of local residents more generally.

Although helpful in terms of structuring this overview of the various pathways through which earning and spending Time Credits can generate public health outcomes, this division is somewhat artificial. For example, positive mental health and employment outcomes may arise from meaningful activity as well as social engagement, and benefit individuals as well as their communities. This shows how interlinked and interdependent public health outcomes can be. It is difficult to report on each one in isolation.

# The conceptual model

## Social and economic determinants of health and public health outcomes

Health is influenced by a combination of individual characteristics, lifestyle factors, and social networks, and general social, economic, cultural and environmental conditions.

***‘Health behaviour’*** is a term that is widely used to refer to lifestyle factors: the actions people take to look after themselves and to keep healthy, such as eating a balanced diet, not smoking, staying active and seeing a doctor when appropriate.

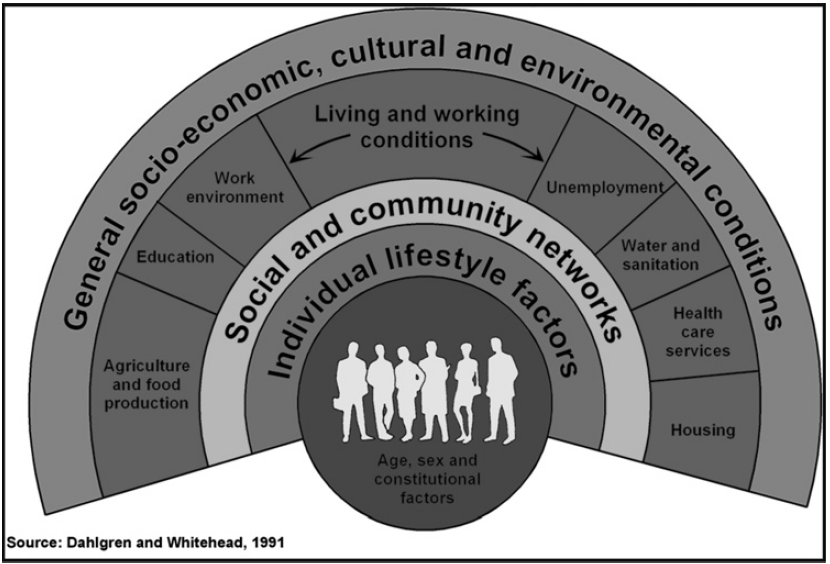
Health behaviours are determined by a complex web of factors including influences from those around us. Shared norms within one’s social network around health behaviours (such as alcohol and cigarette consumption, physical activity or dietary patterns) are thought to be powerful sources of social influence with direct consequences for their health behaviour (Berkman et al, 2000; Bryden et al, 2013; Public Health England, 2015).

Health behaviours, such as alcohol consumption and physical activity, are affected not only by where we live, but also by our income level and social network influence (Bryden et al, 2013). Previous studies have linked social support and social network effects to some specific health behaviours, including physical exercise, alcohol consumption and smoking (Berkman et al, 2000). All of these are behaviours with direct, significant and widely known health impacts.

Alcohol, for example, is one of the leading contributors to the global disease burden and premature death and disability among working-age populations (Bryden et al, 2013). Moderate and heavy drinking, especially regular heavy drinking, has been associated with elevated risk of cardiovascular disease and mortality (Emberson et al, 2005). Alcohol consumption is also known to have significant social and psychological consequences, including family and relationship breakdown, child neglect, violence, crime and decline in productivity (Bryden et al, 2013). Physical inactivity, on the other hand, is known to increase the risk of cardiovascular disease, type II diabetes, certain cancers, obesity, bone and joint diseases and depression (Warburton et al, 2006).

Health is also affected by the conditions in which people are born, grow, live, work and age (Hawe and Shiell, 2000). These ***‘social and economic determinants of health’*** refer to access to social and economic opportunities; income; housing quality; the resources available in neighbourhoods, and communities; the quality of schooling; the safety of workplaces; the cleanliness and safety of the environment; and the nature of our social interactions and relationships. Social and economic factors can also influence health behaviour. For example, some environments are not conducive to outdoor activities, while financial considerations and lack of transport may prevent people living in such areas from accessing health and leisure facilities. Figure 1.1 (below) shows a simple framework for how the various factors (including the social and economic determinants of health) influence health and wellbeing.

##### Figure 1.1. Dahlgren and Whitehead’s (1991) model of the social determinants of health



The social and economic determinants of health affect people’s health by determining what resources are available to them. Variation in these resources (i.e. the social and economic determinants of health), results in *‘****health inequalities’***. These are differences in people’s health due to social, economic and geographical factors. Health inequalities are evident at international, national, regional and local levels. Within the UK, in spite of universal access to health services, poor health remains strongly linked to social and economic disadvantage (Hawe and Shiell, 2000; NICE, 2012: 1).

Fortunately, the social and economic determinants of health that cause health inequalities are modifiable. At least in principle, matters such as housing, education, employment, income, access to public services and personal behaviour can all be improved to enhance health outcomes and reduce health inequalities (O’Mara-Eves et al, 2013:3).

Reduction of health inequalities is one of the two overarching aims set out in *The Public Health Outcomes Framework for England, 2013 -2016*. Changes in the levels of health inequalities, however, can take years, or even decades, to manifest. Movement towards these outcomes, on the other hand, can be measured along the way. One of the four indicators to measure progress towards these overarching long-term goals is via improvements to the social and economic determinants of health (Department of Health, 2012).

Social and economic determinants of health can be addressed through various means. Even small improvements to environment, schools, transport, social networks and access to leisure facilities can help to reduce health inequalities (NICE, 2012). In particular, interventions that provide support for children and families during the early years of their childhood are known to be especially effective in helping to break the cycle of deprivation and poor health (NICE, 2012).

Another approach to reducing health inequalities is through improving social capital and reducing isolation (O’Mara-Eves et al, 2013; Public Health England, 2015). Chronic stress arising from factors associated with poverty – including lack of social capital, lack of control over life choices and inability to participate in the life of the community – has been linked to negative health outcomes especially in relation to mental health (Quinn and Knifton, 2012). There is solid evidence that increased levels of community engagement and social participation have a positive impact on health behaviours, physical and emotional health, and self-confidence, especially among disadvantaged populations (O’Mara-Eves et al, 2013; Public health England, 2015). These benefits are so widely acknowledged that the National Institute for Health and Care Excellence (NICE) guidance endorses community engagement as a strategy for health improvement (Public Health England, 2015: 6).

The model presented in this paper shows how we expect Time Credits to influence some of the social determinants of health and, by doing so, enhance health outcomes and reduce health inequalities. Particular attention is given to positive mental health outcomes. Mental health is defined as ‘a state of well-being in which an individual realises his or her own abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to his or her community’ (WHO definition from 2001, cited in Quinn and Knifton, 2012: 591).

## Our approach

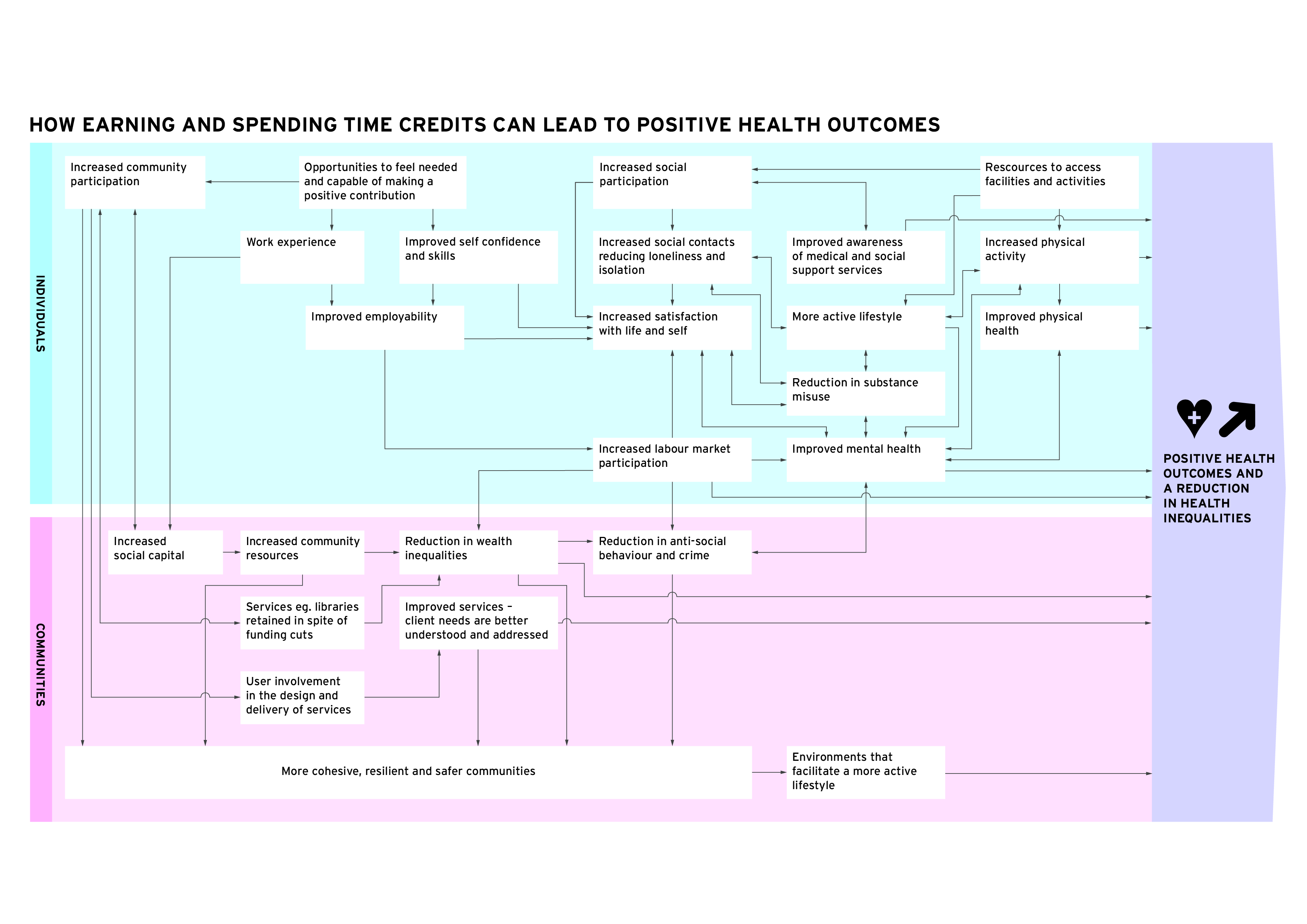
We anticipate health benefits to be accrued in various ways through different pathways. Much of the evidence used to structure the pathways in this model is drawn from a previous evaluation of the Time Credits model and existing literature on the benefits associated with time banking, which is a time-based currency scheme similar to Time Credits[[2]](#footnote-2).

A considerable body of evidence links time banking activity to various positive outcomes for individuals and communities alike (Bretherton and Pleace, 2014; Collom, 2011; Ozanne, 2010). The typically cited positive outcomes associated with participation in time banking include enhanced self-esteem, confidence and skills; expansion of social networks and friendships; increased community involvement, social integration and community self-efficacy; social inclusion; and improved health, wellbeing and quality of life (Boyle, 2014; Boyle and Bird, 2014; Bretherton and Pleace, 2014; Lasker et al, 2011; Ozanne, 2010; Seyfang, 2003). These are achieved largely through opportunities to engage in meaningful activity and to develop new skills and social contacts (Collom, 2011), and have been linked to positive health outcomes.

Many of the benefits associated with time banking are believed to arise from the reciprocal nature of time banking activity and its guiding principle of co-production. The co-productive approach allows and encourages anybody in society to give something back. As such, time banking enables people who are used to being excluded and overlooked to feel needed and to make a positive contribution (Seyfang, 2003).

The Time Credits model is driven by the same vision of social cohesion as time banking, and adheres to the same core principles of respect, reciprocity, participation and co-production. As a result, we consider it reasonable to expect similar benefits to be accrued from participation in Time Credits as from participation in time banking. This assumption is supported by the findings from previous impact and outcome evaluations of Spice Time Credits (Apteligen, 2014 and 2015). These two studies reveal some evidence of individual-level positive outcomes arising from earning activity, greater community participation and ability to use Time Credits to access services and opportunities. When surveyed about their experiences, Time Credit volunteers have reported improved quality of life, self-confidence, outlook on life and overall wellbeing (Apteligen 2015).

Figure 2 (overleaf) provides a visual illustration of the conceptual model for how Time Credits might generate positive health outcomes. As this figure shows, we assume positive health outcomes to emerge through a causal process, where a range of ‘lower level’ outcomes (or ‘waypoints’) associated with Time Credits earn and spend activity affect health and wellbeing, potentially across the life-course.



The model shows that both earning and spending Time Credits can lead to positive health outcomes and a reduction in health inequalities. The outcomes may be direct or indirect and benefits may accrue to individuals, to the wider community, or to both individuals and communities.

The pathways to positive change can involve different stages. For example, earning Time Credits may increase social participation, which reduces loneliness, increases life satisfaction and therefore improves mental health. Increased social participation can also lead to a more active lifestyle, which increases physical activity and therefore improves physical health.

The relationship between activities related to Time Credits and health outcomes can be either direct or indirect. Some activities impact health very directly. For example, a volunteer may spend their Time Credits to go swimming or to the gym, in which case the health benefit is immediate and directly linked to the activity.

Activities with direct health benefits may also contribute to other positive health outcomes indirectly. For example, using Time Credits to access health and leisure facilities may offer opportunities to expand social networks and reduce loneliness, leading to better mental health.

Activities that are not linked explicitly to health can also have a positive impact. For example, volunteering in a meaningful activity which also provides work experience can lead to improved employability, greater life satisfaction and therefore an improvement in mental health.

Sometimes the pathways to health outcomes can be quite complex, and may involve more than one ‘waypoint’, for example, when the emotional and psychological rewards from helping others improve mental well-being, which then lead a reduction in depression and substance misuse.

The benefits arising from volunteering and social participation may also reinforce each other. For example, earning and spending Time Credits enables people to engage in a meaningful activity, to learn new skills and to meet new people. This can increase activity levels, strengthen one’s social networks and boost self-confidence. Over time, each of these changes can have a positive impact on both mental and physical health.

In some instances, the positive health outcomes relate exclusively to the individual who earns or spends the Time Credits, for example, spending Time Credits to go the gym or the cinema. In other instances, the benefits may be more widespread, supporting positive outcomes across a group or community and can extend to those who are not actively involved in the Time Credit networks. This may be the case, for example, when Time Credit earning activities make additional or extended services available to community members more broadly or where people earn their Time Credits by directly supporting other community members who may be elderly or socially isolated.

Time-based currency schemes such as time banks and Time Credits have been shown to attract and engage people who do not normally volunteer, including people from socially excluded groups, with financial and social needs and few resources to meet them (Apteligen, 2014 and 2015; NEF, 2002; Seyfang, 2003 and 2004). Engaging people from disadvantaged backgrounds who would normally be less likely to volunteer can help to reduce health inequalities, as these are likely to be the people who have the most to gain in terms of health benefits derived from the earn and spend activity and improvements to social networking opportunities.

The pathways to positive health outcomes shown in the model are discussed in more detail in sections 2, 3 and 4 of this report.

# Pathways to health outcomes through volunteering

## Health benefits associated with volunteering activity

Volunteering can be defined as an act of free will that results in benefits to others outside of, or in addition to, support given to close family members (Jenkins et al, 2013: 2). Earning Time Credits is a form of volunteering, whereby individuals who volunteer are rewarded for their time with Time Credits. What sets it apart from more ‘traditional’ volunteering opportunities is the habit of rewarding volunteers for their input, with a Time Credit that can then be spent elsewhere in the community, and the focus on attracting volunteers from population groups that are generally less likely to volunteer (Apteligen 2015), such as people from more deprived backgrounds and those with long-term chronic health conditions (Jenkins et al, 2013). Time Credits also support the setup of more community led activities. These tend to lead to more informal volunteering opportunities with people often giving time in less structured roles and settings.

Although health benefits are rarely cited as a motive for volunteering, there is strong evidence of the positive effects of volunteering on both mental and physical health. This evidence has been used to inform public policy, which is increasingly advocating volunteering “as a way to engage people in their local communities and improve social capital, with the potential for public health benefits such as improving wellbeing and decreasing health inequalities” (Jenkins et al, 2013: 1).

Existing studies have associated volunteering with improvements in mental health, general wellbeing and satisfaction with life. Specific psychological benefits linked to volunteering include enhanced self-esteem and self-confidence, better coping mechanisms, and reductions in depression, stress and anxiety (Casiday et al, 2008; Jenkins et al, 2013; Morrow-Howell et al, 2009; Public health England, 2015: 13). It has been suggested that the health benefits associated with volunteering may be more pronounced for lower-income and less-educated volunteers (Morrow-Howell et al, 2009).

Volunteering is believed to foster the adoption of healthy lifestyles, lower mortality, increase longevity and improve physical functioning (Casiday et al, 2008; Public health England, 2015: 13). Especially among older people, volunteering has been linked to various physiological benefits, including improved ability to carry out activities of daily living, higher levels of self-rated health and muscular strength, and reduction in pain and hospitalisation (Casiday et al, 2008). In one study, up to one fifth of older volunteers reported health improvements since they started volunteering (Morrow-Howell et al, 2009).

## Increased activity levels

Direct health benefits arise from increased levels of physical activity when volunteering keeps people more active and reduces the amount of time people spend daily in prolonged sedentary activities, such as using the computer or watching television. This can be regarded as an important health outcome in the light of recent research findings suggesting that sedentary behaviour may have harmful health effects even for people who exercise regularly. Regular non-sedentary activity throughout the day, on the other hand, may have health benefits even when recommended physical activity targets are not met (Biswas et al, 2015).

Increased levels of any kind of moderate activity - especially among people who would otherwise spend a large proportion of their time sitting down – can potentially have a significant positive long-term effect on their overall health. By encouraging and supporting people who are largely inactive to earn Time Credits by, for example, gardening, helping out at the local school or getting involved in environmental improvement projects, Time Credits can promote more active and less sedentary behaviour. These benefits can be further augmented by spend activities, for example, by spending on both formal leisure provision and on activities run by the community such as discos.

## Meaningful activity and emotional rewards from helping others

Earning Time Credits gives people opportunities to engage in a wide variety of meaningful activities, to feel needed and to feel they are making a positive contribution (Apteligen, 2015; Berkman et al, 2000; Letcher and Perlow, 2009; Seyfang, 2003). Meaningful activity and the emotional reward from feeling needed and helping others can have a powerful positive impact on mental health and wellbeing, including improved satisfaction with life, self-respect and self-esteem, and sense of self-worth and purpose (Berkman et al, 2000; Bretherton and Pleace, 2014; Letcher and Perlow, 2009; Maton, 1990; Seyfang, 2003).

The challenges and rewards associated with volunteering can give the volunteers’ life meaning and purpose (Berkman et al, 2000). A sense of satisfaction derived from making a positive difference in the lives of other people is often cited as one of the major benefits of volunteering as well as one of the key motivating factors (Morrow-Howell et al, 2009). Volunteering, especially when involving a peer-support component, can also influence an individual’s outlook on life and help them gain a new perspective on their problems (Cattel, 2001).

The positive impact of volunteering may be particularly pronounced for adolescents. Adolescent volunteers, compared to their non-volunteering peers, are known to have better self-confidence, self-esteem and communications skills. They are also less likely to engage in risky health behaviours (Letcher and Perlow, 2009).

## Work experience and employability

Volunteering provides opportunities for personal growth, self-development and skills-acquisition. By enabling people to gain new skills and work experience, volunteering has a positive impact on self-confidence and self-respect and future employment prospects (Bretherton and Pleace, 2014; Collom, 2011; O’Mara-Eves et al, 2013; Seyfang, 2003 and 2004). Self-development, personal growth and ability to gain career-related experience are among the key factors that motivate people to volunteer (Clary and Snyder, 1999).

Development of personal skills, self-confidence and problem-solving skills can help people to feel a greater sense of control over their lives, and incentivise positive health behaviours and self-care (Public Health England, 2015). Improved self-confidence and self-efficacy (i.e. the degree of confidence a person has in their ability to perform specific behaviours), have been associated with a variety of health outcomes (Berkman et al, 2000).

By enabling people to acquire new skills and work experience that improve their employability, volunteering can provide a way out of unemployment or prolonged economic inactivity. Unemployment, especially as a result of job-loss, has been linked to an increase in symptoms associated with depression and anxiety, more frequent use of health services and medication (Linn et al, 1985), increased risk of suicide (Stefansson, 1991) and overall mortality (Clements et al, 2009). Among young people aged 16-21, unemployment has been linked to substance abuse and criminal behaviour (Fergusson et al, 2001). Considering these negative health outcomes associated with unemployment, any activity that improves employability and future employment prospects can have long-term health benefits.

By engaging people who are marginalised by the mainstream economy – such as long-term unemployed and ill individuals – Time Credits can enable those with limited skill sets and low employability opportunities to learn new skills, gain confidence and raise their aspirations by volunteering (Apteligen, 2015). Volunteering can also enable individuals to develop social relationships in a professional setting, which may improve their access to information and provide opportunities for mobility (Berkman et al, 2000). Spending Time Credits can also directly support skill acquisition by allowing people to access courses and further education.

## Spending Time Credits

Time Credit volunteers are rewarded for their time with Time Credits. These can be used to access a broad range of services and facilities. The network of spend partners includes public, community and private sector organisations and service providers, including some corporate partners and high profile tourist attractions who accept Spice Time Credits as payment to access their facilities and services. The organisations and communities where people can earn Time Credits also develop opportunities for spending Time Credits, for example, on school trips or disco nights. People can donate their Time Credits to friends and family or other organisations locally or in other parts of the country. Time Credits can also be used to access learning opportunities, such as courses and lectures, that may contribute to improved health indirectly over time via improved self-confidence and employment opportunities (Apteligen, 2015).

In Cambridgeshire, Time Credits can be used to access various health, wellbeing, leisure and exercise opportunities. These include swimming pools, gyms, fitness centres, outdoor activities such as golf and specific sports, such as wrestling and karate. The findings of previous research show an increase in the levels of both social and physical activity as a result of both earning and spending Time Credits (Apteligen, 2015). There may also be a benefit to self-confidence and increased aspirations associated with accessing new opportunities and trying new things that may have previously seemed out of reach.

Time Credits can help to overcome financial constraints that may present barriers to social participation or ability to access leisure and exercise opportunities. Consequently, Time Credits can potentially help to reduce health inequalities associated with the inability to afford health and leisure services. Spending their Time Credits also encourages and enables the participants and their families to try new activities they may not otherwise be able to afford (Apteligen, 2015).

# Pathways to health outcomes through social participation

Social relationships play an important role in the chain of causal factors affecting health. These pathways are complex, involving a set of interlinked mechanisms (Berkman et al, 2000: 851). The purpose of this section is to describe how social networks influence health and health behaviours in order to explain how Time Credits may be able to contribute to positive health outcomes by improving access to opportunities for social participation.

## Social participation and health

Getting together with friends, attending social functions, participating in occupational or social roles and group recreation activities are all instances of social participation. Social and cultural activities benefit health by promoting social networks, reducing isolation and helping to improve self-esteem and communication skills (Cattel et al, 2001). The health benefits associated with increased social participation through volunteering have been shown to be particularly beneficial for adults with depression (Letcher and Perlow, 2009).

Social participation helps people to build their social networks, which provide a source of social support (Cattel, 2011). This process is often referred to as ‘building social capital’ (Hawe and Shiell, 2000). Access to social capital affects a person’s health by influencing a range of psychosocial and behavioural processes, including self-esteem and sense of security, ability to cope with stress and adverse life situations, and engagement in health damaging or health promoting behaviours, such as alcohol and tobacco consumption, appropriate use of health services, medical adherence and exercise (Berkman et al, 2000).

## Social networks as a source of social support

Through opportunities for engagement, social networks define and reinforce meaningful social roles, which in turn provide a sense of identity, value, belonging, and attachment. In addition, social networks provide opportunities for companionship and sociability, and a source of social support (Berkman et al, 2000).

Social support, derived through one’s social networks, can take many forms. The most commonly cited subtypes of social support include:

* Emotional support (love, sympathy and understanding available from others)
* Instrumental support (practical assistance, such as cooking, cleaning, transport)
* Appraisal support (help in decision-making)
* Informative support (provision of advice or information)

(Berkman et al, 2000)

The resources and benefits people can access through their social networks are known to have a significant impact on both mental and physical health.

The effect of social support is particularly pronounced in relation to mental health and wellbeing. Belonging to a social network can increase wellbeing and satisfaction with life by improving self-esteem, evoking a sense of belonging and providing a purpose to life (Berkman et al, 2000; Letcher and Perlow, 2009; Cattel, 2011; Public Health England, 2015). Becoming more aware of others’ problems may make one’s own problems seem less overwhelming and more manageable, and being able to form relationships with others can assist in the development of mutual support networks (Cattel, 2001), where people form relationships with others to help each other and provide friendship, thus reducing stress, loneliness and social isolation and therefore improving wellbeing.

Supportive social networks can moderate the impact of stressful life events, reduce the risk of depression, help people cope with poverty and stressful life events, and enable individuals to remain positive in the face of adversity (Berkman et al, 2000; Cattel, 2011; Holt-Lundstad et al, 2010; Letcher and Perlow, 2009; Linn et al, 1985; Public Health England, 2015). As such, social networks provide an important source of individual and community resilience (Berkman et al, 2000; Public health England, 2015). Strong social networks are vital for older people to help them retain a sense of self-efficacy during life-course transitions associated with the ageing process (Berkman et al, 2000).

Time banks have achieved positive outcomes through the sharing of skills and services and building trust through individual exchanges, social gatherings, classes and community projects. These findings suggest that the time banking approach may be particularly beneficial in promoting health and belonging among older and lower-income individuals and those who live alone (Lasker et al, 2011). Apart from not directly brokering individual transactions, the Time Credit approach adheres largely to the same values and principles as the time banking approach, indicating that these pathways to positive health outcomes may apply to Time Credits as well as time banking. We thus expect the greater community participation associated with Time Credit membership to enable volunteers to develop more extensive peer and community support networks (Apteligen 2015).

Deprivation and poverty are generally associated with lower levels of social capital, which is a key social determinant of health (Verhaeghe and Tampubolon, 2012). Building up social capital, especially among deprived areas and individuals, thus may help improve health outcomes and decrease health inequalities (O’Mara-Eves et al, 2013; Public Health England, 2015). By engaging people who are marginalised by the mainstream economy and who lack social capital, Time Credits can help to channel informal mutual support from and towards people who have the most to gain from even slight improvements to their social networks.

## Reducing social isolation and loneliness

Social isolation is a term used to describe the absence of social participation and social interaction opportunities (Seeman, 1996). Social isolation is known to increase the risk of ill health, denying individuals access to the health benefits derived from social networks.

Existing research has linked social isolation to various health conditions and mental health problems, including:

* Depression and suicide
* Cognitive decline
* Weakened immune function
* Increased risk of risk of mortality
* Reduced quality of life

(Berkman et al, 2000; Hawkley and Cacioppo, 2010; Holt-Lunstad, 2010; Farquhar, 1995; Public Health England, 2015).

The negative health consequences of social isolation have been argued to be greater than some well-established health risk factors such as obesity and smoking (Holt-Lunstad et al, 2010). In one study, interviewees who lacked access to social networks expressed feelings of fatalism and hopelessness, as well as various physical and mental health complaints such as anxiety, depression, headaches and stomach problems (Cattel, 2001).

In the arena of lifestyle behaviours, loneliness and isolation have been linked to reduced capacity for self-regulation and heightened likelihood of detrimental health behaviours, such as excessive drinking and lack of physical activity (Hawkley and Cacioppo, 2010). The health risks associated with loneliness and social isolation are known to be particularly severe for older adults (Coyle and Dugan, 2012), with financial implications to health and social care provision (Newall et al, 2014).

According to some commentators, social isolation and loneliness can be regarded as a serious and growing public health concern (Cattan et al, 2011; Dickens et al, 2011), with negative consequences for health inequality. Whereas social networks are believed to alleviate the negative health impacts of deprivation, the absence of these networks can exacerbate them by aggravating stress associated with financial difficulties (Cattel, 2011). As such, barriers to social participation among disadvantaged populations are likely to exacerbate health inequalities.

Practices, activities and initiatives that provide opportunities for social interaction and enhance the informal ways people connect with others can reduce isolation and have a significant positive impact on health and wellbeing (Public Health England, 2015). These benefits can be augmented by actively seeking to include people who are socially isolated or at risk of social isolation.

Reducing social isolation may help to decrease health inequalities (O’Mara-Eves et al, 2013; Public Health England, 2015). By providing people with opportunities for social participation, Time Credits can help people to establish and enhance their social networks and generate positive health outcomes. Spending Time Credits in social activities can also enable the members to meet new people and expand their social networks.

Social relationships can influence health outcomes through behavioural processes by eliciting positive health behaviours, discouraging harmful health behaviours and encouraging people to seek preventative and appropriate medical treatment when needed (Lett et al, 2007; Coyle and Dugan, 2012; Holt-Lunstad et al, 2010). In other words, social networks provide support and enforce positive social norms that can help individuals gain motivation, confidence and skills to self-care (Public Health England, 2015: 31). The potential of social networks to encourage positive health behaviours, such as smoking cessation, modest alcohol consumption and adequate levels of physical activity has direct, positive health outcomes.

By facilitating greater social participation, Time Credits can potentially help more people to access supportive social networks that encourage and enforce positive health behaviours and discourage harmful health behaviours. Time Credits can also be spent to access to health and leisure facilities and activities.

# Pathways to health outcomes through community engagement

‘Community’ is a term that can be used to refer to groups of people sharing a common characteristic or affinity, such as living in the same neighbourhood, being in a specific population group, or sharing a common faith or set of experiences (Public Health England, 2015). Communities, both place-based and where people share a common identity or affinity, can play an important role in influencing health and wellbeing and addressing health inequalities (Public Health England, 2015; Quinn and Knifton, 2012).

## Neighbourhood effects on health and health behaviour

Communities and neighbourhoods can play an important role in influencing the quality of the local environment and the opportunities available to local residents. Concerns about anti-social behaviour and crime, for example, contribute to residents feeling isolated and unhappy, with negative implications to social connectedness and mental health and wellbeing (Cattel, 2001; Quinn and Knifton, 2012). Lack of neighbourhood trust breeds defeatism, which may work as a deterrent to taking action to improve one’s personal circumstances or immediate living environment (Cattel, 2001).

Neighbourhood factors such as perceived safety can also present barriers to physical activity, especially among women and children. Negative perceptions of neighbourhood safety tend to be particularly salient among people who live in urban areas characterised by high levels of deprivation (Bennett et al, 2007; Carver et al, 2008). Safer and more cohesive communities, on the other hand, can facilitate more active lifestyles.

## Community participation and community resources

Individual assets, such as skills, knowledge and social networks, can benefit the communities in which people live. Volunteering with one’s local community can help communities and individuals in these communities to forge stronger connections, therefore building greater community capital. Through volunteering in their local communities, people can contribute to community life and help make communities safer, more inclusive and, as such, healthier (Public Health England, 2015). Community participation can also have a direct positive impact on social cohesion and individual self-esteem (O’Mara-Eves et al, 2013:2).

Social justice, participation and partnerships form the basis for addressing health inequalities at a local or community level (Quinn and Knifton, 2012: 589). Community engagement can have a positive effect on social inequalities by involving people in their local communities to combat social exclusion (Public Health England, 2015). Through tackling social inequalities, community engagement may lead to a reduction in health inequalities (O’Mara-Eves et al, 2013:6).

Time Credits, time banking and other initiatives that seek to encourage a greater degree of community engagement and participation, especially in more deprived areas, can be instrumental in helping to address health inequalities at the local level. Time banking has been shown to be beneficial in building communities, strengthening families, engaging children with their school environments, building relationships across age groups, fostering social capital and rebuilding local trust and sense of self-worth among those taking part (Cahn and Gray, 2005; Collom, 2007 and 2007; Lasker et al, 2011; NEF, 2002; Rosenberg, 2011; Seyfang, 2003). Activities that help to strengthen positive relationships and networks within communities by building trust and reciprocity can benefit everyone (NICE, 2012).

Time Credits can also empower individuals and communities to build community capacity by creating opportunities for people to come together and give their time to improve the services available for the local residents. Community facilities and activities such as social clubs and groups provide important socialising opportunities that help foster the ties necessary for a vibrant community life, which can contribute to the residents’ sense of wellbeing (Cattel, 2001). Time Credits can facilitate this process by incentivising individuals to get involved with local groups and organisations, and giving their time to provide services and support to the members of their communities.

## Community cohesion, community activism and health inequalities

Community participation can lead to positive health outcomes at both individual and community-levels by enabling individuals to “come together as a community of cooperation to meet each other’s needs and solve complex problems” (Letcher and Perlow, 2009: 296).

“There is extensive evidence that connected and empowered communities are healthy communities. Communities ... that are well networked and supportive and where neighbours look out for each other, all have a positive impact on people’s health and wellbeing” (Public Health England, 2015: 4)

By building social cohesion and strengthening ties at the local level, community engagement can enable individuals and communities to increase awareness of the problems and inequalities they are experiencing, and facilitate action to challenge them (Morrow-Howell et al, 2009; O’Mara-Eves et al, 2013). Community engagement can enable individuals and communities to gain more control over their lives by empowering them to participate in decision-making and help design more effective services. Communities comprising of residents who are actively participating in the local community tend to be stronger and better able to take collective action in regards to health, social determinants of health and health inequalities (Public Health England, 2015).

Community activity that enables people to jointly campaign to improve their environments, for example by improving lighting to enhance safety, can potentially bring about a real improvement to people’s wellbeing (Quinn and Knifton, 2012). When successful, community-based approaches can result in sustainable social action, addressing the root causes of health and ill-health and resulting in positive change in the physical and social environment.

In many instances, these benefits can spread beyond those who are directly involved by generating wider social trust (Cattel, 2001).

Building connected communities involves organisation, capacity building and reciprocity and mutual aid based on strong social ties (Public Health England, 2015). Time Credits can assist in this process by incentivising and supporting residents to volunteer with local groups, community organisations and local service providers, set-up their own local groups based around local priorities and interests, and utilise the Time Credit networks to encourage and support inter-organisational connections at the community level.

By cultivating stronger connections between community groups and organisations, the Time Credit model enables the local partners to make better use of their resources, while also helping to revitalise communities and develop a more co-productive culture. The ultimate objective of the Time Credit approach is to facilitate community participation and activate citizens and communities to meet their own needs at the local level.

# Conclusions

The conceptual model developed in this paper shows how we expect Time Credits to influence some of the social determinants of health and, by doing so, enhance health outcomes and reduce health inequalities. Activities associated with earning Time Credits can have both direct and indirect health benefits. Many of the health benefits associated with volunteering are indirect, arising from positive emotions associated with helping others, improved skills and confidence, work experience, and developing social connections with other people.

We expect positive health changes for Time Credits volunteers to arise from activities associated with earning and spending Time Credits, as well as through improved opportunities for social participation. Earning Time Credits can benefit volunteers’ health directly by increasing activity levels, or indirectly through the emotional and psychological rewards derived from engaging in meaningful activity, helping others, and learning new skills. Volunteering can also help people to gain work experience, thus improving their future employment prospects and reducing the risk of negative health outcomes associated with long-term unemployment.

Earning and spending Time Credits can improve access to opportunities for social participation, which may enable the volunteers to extend their social support networks. Social participation greatly reduces the risk of loneliness and social isolation which have been associated with numerous negative health outcomes. Strong social networks can provide a source of emotional and instrumental support to help people to cope with adversity, challenges and difficult life transitions. Time Credits can also empower individuals and communities to build community capacity and social capital by creating opportunities for people to come together at a community level. Through these pathways, Time Credits may be able to address some of the social determinants of health and support positive health behaviours, thus contributing to positive physical and mental health outcomes and reduced health inequalities.

The pathways to positive health outcomes and reduced health inequalities described in this paper are based on existing evidence and our current knowledge of factors that affect our health and wellbeing, how these may change, and how Time Credits and similar interventions may impact upon them. These processes are complex and interconnected, and determining clear causal relationships is not always possible in the light of the available evidence.

As stated in the introduction, the conceptual model described in this report is not aiming to illustrate a factual process, but rather to provide an illustration of how we think an approach such as Time Credits *may potentially* generate positive health outcomes. The purpose of this model is to guide our thinking and help to inform the data collection processes. The next stages of the research will collect data to explore and evidence these pathways to change.

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1. <http://www.cchpr.landecon.cam.ac.uk/Projects/Start-Year/2015/Evaluating-Public-Health-Outcomes-Cambridgeshire-Time-Credits-Project> [↑](#footnote-ref-1)
2. For an overview of the similarities and differences between time banking and Time Credits, as well as an overview of the positive outcomes associated with time banking, please see Working Paper 1 of this series. [↑](#footnote-ref-2)