developing healthy communities | civic dollars

Understanding Engagement in Community Based Digital Health Interventions

An Evaluation of the Civic Dollars App in Derry City and Strabane

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Every dataset represents people, stories and lived experience. It is hoped that this evaluation honours those contributions while supporting continued learning and improvement.

This work was commissioned by Innovate UK. The views expressed in this publication are those of the author and not necessarily those of Innovate UK.

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Illustrations by Grainne O'Neill from a Graphic Harvesting session conducted with participants of Civic Dollars.

FOREWORD

Innovation flourishes wherever people come together.

Here in Derry City and Strabane, we have shown that innovation is not determined by size or geography, but by strong partnerships, shared ambition and a willingness to challenge established ways of working. From pioneering the first Health Impact Assessment of a new residential development on the island of Ireland to developing innovative community models of dementia care, our district has demonstrated that meaningful innovation happens when organisations and communities work together with a shared purpose.

The Civic Dollars programme is another example of that approach in action. It set out to answer a simple but important question: could digital technology encourage people at risk of diabetes to become more physically active by spending time outdoors? Thanks to the support of Innovate UK and the vision of Civic Dollars, we have not only delivered an innovative programme but also generated valuable evidence about its impact.

The results are encouraging. Over a ten-month period, 474 participants made almost 7,800 visits to Earn Zones, spending more than 20,000 hours taking part in outdoor and community activities. Behind these figures are people choosing to walk more, discover local places, connect with others and engage with their communities. Collectively, these small changes have the potential to improve both individual wellbeing and community health.

474	7,800	28,000+
participants over ten months	visits made to Earn Zones	hours of outdoor and community activity

This achievement reflects the commitment of many people. I would like to thank Innovate UK for investing in both the programme and its evaluation, and Stephen McPeake, Founder and Director of Civic Dollars, whose vision brought this opportunity to our district. My thanks also go to the exceptional Civic Dollars team, colleagues across Developing Healthy Communities, our delivery partners and, above all, every participant whose willingness to embrace something new turned an innovative idea into meaningful change.

Evaluation is about more than measuring outcomes; it is about learning. This report provides valuable insights into what works, who benefits most and how digital innovation can complement community-led approaches to improving health and wellbeing. I hope these findings will encourage continued collaboration and investment in preventative approaches that create healthier, more connected and more resilient communities.

Innovation is not the preserve of the biggest cities. It flourishes wherever people come together with imagination, purpose and a shared commitment to improving lives. I believe this report provides further evidence that Derry City and Strabane continues to do exactly that.

Edel O'Doherty

Chief Executive, Developing Healthy Communities

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Abbreviations

CD	Civic Dollars
DCSDC	Derry City and Strabane District Council
DHC	Developing Healthy Communities
DoH	Department of Health
GAD-7	Generalised Anxiety Disorder scale (7 item)
GP	General Practice
LGD	Local Government District
NI	Northern Ireland
NICE	National Institute for Health and Care Excellence
PHQ-9	Patient Health Questionnaire (9 item)
SDT	Self-Determination Theory
TTM	Transtheoretical Model
WHO	World Health Organization
WHSCT	Western Health and Social Care Trust

SECTION 03

Key Findings and Recommendations

1

Prioritise implementation alongside technology

This evaluation demonstrates that successful digital health interventions depend not only on the quality of the technology but also on the quality of their implementation. Civic Dollars appeared to achieve meaningful behaviour change because digital resources were embedded within trusted community settings that supported motivation, confidence, participation and ongoing engagement. Future investment should therefore place equal emphasis on community partnerships, implementation planning and participant support as on digital infrastructure itself.

2

Build programmes through trusted community networks

Community organisations emerged as more than recruitment settings; they acted as active mechanisms supporting behaviour change by providing psychologically safe environments, social encouragement and repeated opportunities for participation. Future programmes should strengthen partnerships with community organisations, recognising them as essential implementation partners capable of supporting sustained engagement.

3

Allow sufficient time for behaviour change to develop

Behaviour change developed progressively rather than immediately following registration. Participants moved through identifiable stages of engagement, from registration to active participation, reward redemption and, for some, charitable donation. Qualitative findings further suggest that initial incentives gradually evolved into confidence, enjoyment, habit formation and community belonging. Commissioners should therefore recognise that meaningful behaviour change requires time, repeated opportunities for participation and sustained community support.

4

Measure engagement rather than participation alone

Downloads, registrations and app usage provide only partial indicators of programme success. The behavioural engagement pathways developed through this evaluation demonstrate the value of measuring progression towards sustained participation. Future evaluations should incorporate behavioural, experiential and implementation measures alongside routine digital analytics to better understand how participants engage over time.

5

Adopt flexible, community-based recruitment strategies

Recruitment through General Practice proved more challenging than anticipated, reflecting the realities of implementing preventative interventions within busy healthcare systems. Community organisations provided trusted routes into the programme and appeared particularly effective in supporting continued engagement. Future preventative programmes should adopt blended recruitment strategies that combine healthcare referral pathways with strong community-based partnerships.

6

Continue investment in Civic Dollars across Derry City and Strabane

The evaluation demonstrates high levels of behavioural engagement, improvements in physical activity, wellbeing and community belonging, together with consistently positive participant experiences. The integration of quantitative and qualitative findings provides strong evidence that Civic Dollars represents a valuable community-based public health intervention, supporting continued investment and consideration of wider implementation across communities experiencing similar health inequalities.

7

Inform wider digital public health programmes

The findings extend beyond Civic Dollars. Digital health technologies are unlikely to achieve sustained behaviour change in isolation. This evaluation suggests that successful programmes depend upon the interaction between technology, supportive implementation, trusted community relationships and opportunities for repeated participation. Future public health initiatives should therefore invest not only in digital innovation but also in the community infrastructure required to translate technological potential into meaningful and sustainable behaviour change.

IN SUMMARY

Overall, this evaluation demonstrates that Civic Dollars represents considerably more than a digital rewards platform. It illustrates how technology, when embedded within trusted community organisations and supported through thoughtful implementation, can activate the motivational, social and behavioural processes that underpin sustained behaviour change.

By integrating quantitative and qualitative evidence, this evaluation developed a programme theory explaining not only whether Civic Dollars worked, but how, why and under what circumstances positive outcomes appeared to occur. The findings suggest that the future success of digital public health interventions will depend not simply on technological innovation, but on investment in the community relationships, implementation strategies and supportive contexts that enable people to engage, thrive and sustain healthier lives.

Members of Skeoge Women's Group on a mindful walk with Orla Mullan (DHC)

SECTION 04

Introduction

A note about language

Prediabetes remains the standard clinical term for people at risk of type 2 diabetes. Its use however has been criticised on several grounds, and there has been a shift towards the phrase 'at risk of type 2 diabetes' (Tabák et al., 2012). The shift reflects concerns about medicalisation, variability in progression and evidence that risk framing may better support prevention and behaviour change. Evidence from health communication research indicates that message framing and terminology can influence risk perception and motivation for behaviour change (Gallagher & Updegraff, 2012). The National Institute for Health and Care Excellence guideline (NICE, 2017) is titled 'Type 2 diabetes: prevention in people at high risk' and does not use the term prediabetes. In addition, medical professionals in the GP practices involved in this evaluation advised using the phrase 'at risk of type 2 diabetes'. This is therefore the language used throughout the report.

Determinants of health

Determinants of health are the range of personal, social, economic and environmental factors that influence health status. They include:

- the physical environment in which we live including safe water, clean air, safe housing, transport links and exposure to hazards;
- individual characteristics including age, gender, genetics and our lifestyle choices;
- Access to and use of quality healthcare services; and
- Social determinants of health.

The percentages that each determinant is estimated to contribute to overall health are shown in Figure 1.

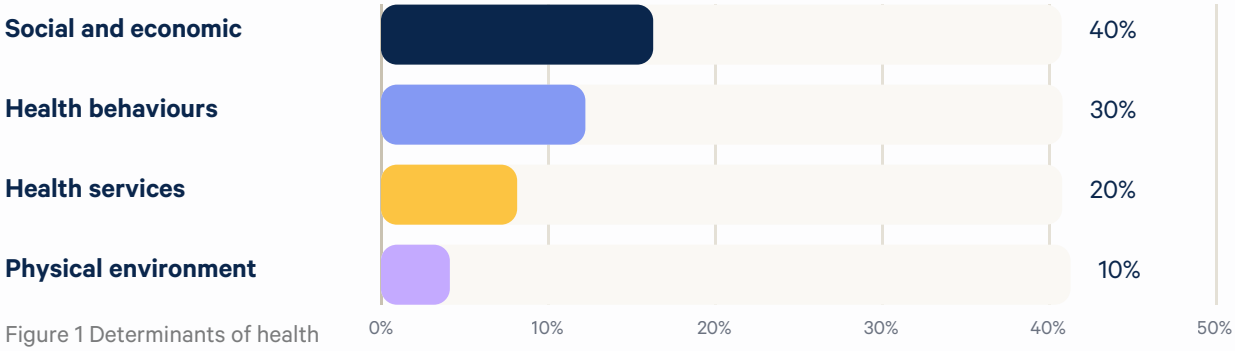


Figure 1 Determinants of health

Social determinants of health

The social determinants of health are defined by the World Health Organisation (WHO) as those factors outside of physiological, biological or medical that make up the conditions in which each person is born, grows, lives, work and ages (Marmot et al., 2008). They include access to power, money and resources. There is a social gradient which health and illness follow. The lower each person's socioeconomic status, the worse their health is. The more limited each person's access to quality housing, education, social protection and employment opportunities, the greater the risk of illness and death.

Poverty is often referred to as the 'cause of causes' as it is a foundational issue that drives, amplifies and sustains a range of social, economic and physical hardships. People who live in poverty have shorter lives and are in worse health (Marmot et al., 2010). It is a central driver of inequality, vulnerability and poor health. Poverty and bad health has a bidirectional relationship meaning bad health can also be a cause of poverty. A qualitative study was conducted by Barry and Greenhalgh (2022) in which focus groups were held with primary care-based professionals including GPs, nurses and healthcare assistants. The study concluded that there were a number of social determinants which influenced the ability people had to apply the lifestyle changes needed to reverse risk of type 2 diabetes. They found that financial insecurity, cultural norms about food and eating, gender roles and expectations, the obesogenic environment and health literacy all had influence when people tried to make changes or indeed if they felt they could try.

Food choice for example includes strategies by the food industry to encourage people to buy energy dense food and in larger quantities. These are strategies such as placing certain foods at eye level at checkouts, packaging food and drink in larger quantities that seem like good value and the aggressive promotion of food of poor nutritional quality as these represent the highest profit margins (Perriard-Abdoh et al., 2019). In the UK as well as other high income countries energy dense foods tend to be cheaper and so are more prevalent in areas of deprivation (Perriard-Abdoh et al., 2019). This manifests in ways such as more fast food outlets appearing in more deprived areas (Cummins et al., 2005) as well as more consumption of takeaway food in low-income families (Macdonald et al., 2007). Combined with these are factors related to the ability to engage in physical activity in poorer communities such as availability of green space and safe play spaces. Further to all of these is that people who experience more social and economic deprivation also experience higher levels of adversity which in turn leads to higher levels of stress (Wilkinson & Pickett, 2010).

Risk of type 2 diabetes

Diabetes has been termed a defining disease of the 21st Century (Lancet, 2023; Ong et al., 2023; Wang et al., 2023). Globally about 1.3 billion people are expected to be living with diabetes by the year 2050 (Ong et al., 2023). Risk of type 2 diabetes, also known as non-diabetic hyperglycaemia, occurs when a person's blood sugar levels are higher than usual but not high enough for them to receive a diagnosis of type 2 diabetes (Arreola et al., 2026; Galaviz et al., 2022). People at risk of type 2 diabetes are at increased risk of developing type 2 diabetes, cardiovascular diseases, heart failure and are at increased risk of premature death (Arreola, 2026).

Risk of type 2 diabetes in the Derry City and Strabane Council LGD

Reporting of the prevalence of people at risk of type 2 diabetes by the Department of Health (DoH) in Northern Ireland (NI) began in 2023, at that point 66,000 people in NI were registered as at risk of type 2 diabetes (DoH, 2023). Prevalence of diabetes had been reported for 20 years at that time, during which time the number of people registered with diabetes had doubled.

As of mid-2024, approximately 73,500 people in Northern Ireland were registered at risk of type 2 diabetes which represented an increase of 11.4% on the previous year. A regional breakdown of cases for 24/25 shows that 11,446 of these are in the Western Health and Social Care Trust (WHSCT). The WHSCT in Northern Ireland serves a population of approximately 300,000 people including the Derry City and Strabane District Council (DCSDC) Local Government District (LGD). One of the contributing factors is most certainly that the DCSDC has the 3rd highest levels of health inequalities among all UK council authorities. When we talk about health inequalities, we are referring to unequal distribution of health and health resources (Global Health Europe, 2026).

Health inequalities in the Derry City and Strabane Council LGD

DCSDC LGD experiences some of the most pronounced health inequalities in Northern Ireland. This gap exists both between the LGD and others and within the LGD between those who have the most and those who have the least. The recently released Health Inequalities Annual Report (Dilworth & Laverty, 2026). All figures below have been reproduced from the annual report. They highlight that health inequalities in this area are stark and persistent, with clear gaps in outcomes such as life expectancy and rates of ill health compared to regional averages. Many people are also managing complex, overlapping challenges—such as financial strain, everyday stress, and limited access to resources—which can make looking after their health much more difficult.

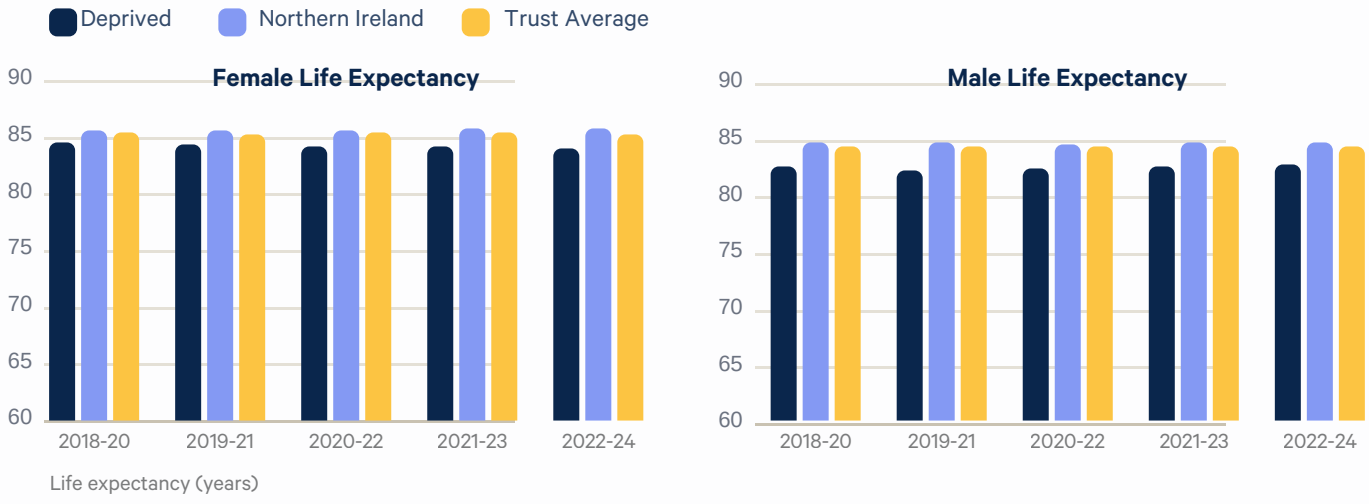


Figure 2 Female and Male life expectancy by deprivation status compared with Trust average and Northern Ireland, 2018–2024.

As shown in Figure 2, female life expectancy in the most deprived areas remains consistently lower than both the Trust average and Northern Ireland overall across all years shown, with a persistent gap over time. Male life expectancy in the most deprived areas is consistently lower than both the Trust average and Northern Ireland overall, with a more pronounced and enduring gap than that observed for females. Figure 4 illustrates that Standardised death rates are consistently higher in the most deprived areas such as the DCSDC LGD compared to both the Trust average and Northern Ireland overall, indicating persistent inequalities in mortality outcomes. In fact, as Figure 3 tells us substantial variation is evident across health indicators, with the largest gaps observed in outcomes such as suicide, alcohol-related deaths, and obesity, highlighting areas of disproportionate impact. In none of the health indicators is the WHSCT area better than any other area of NI. The area is at best similar to Northern Ireland averages.

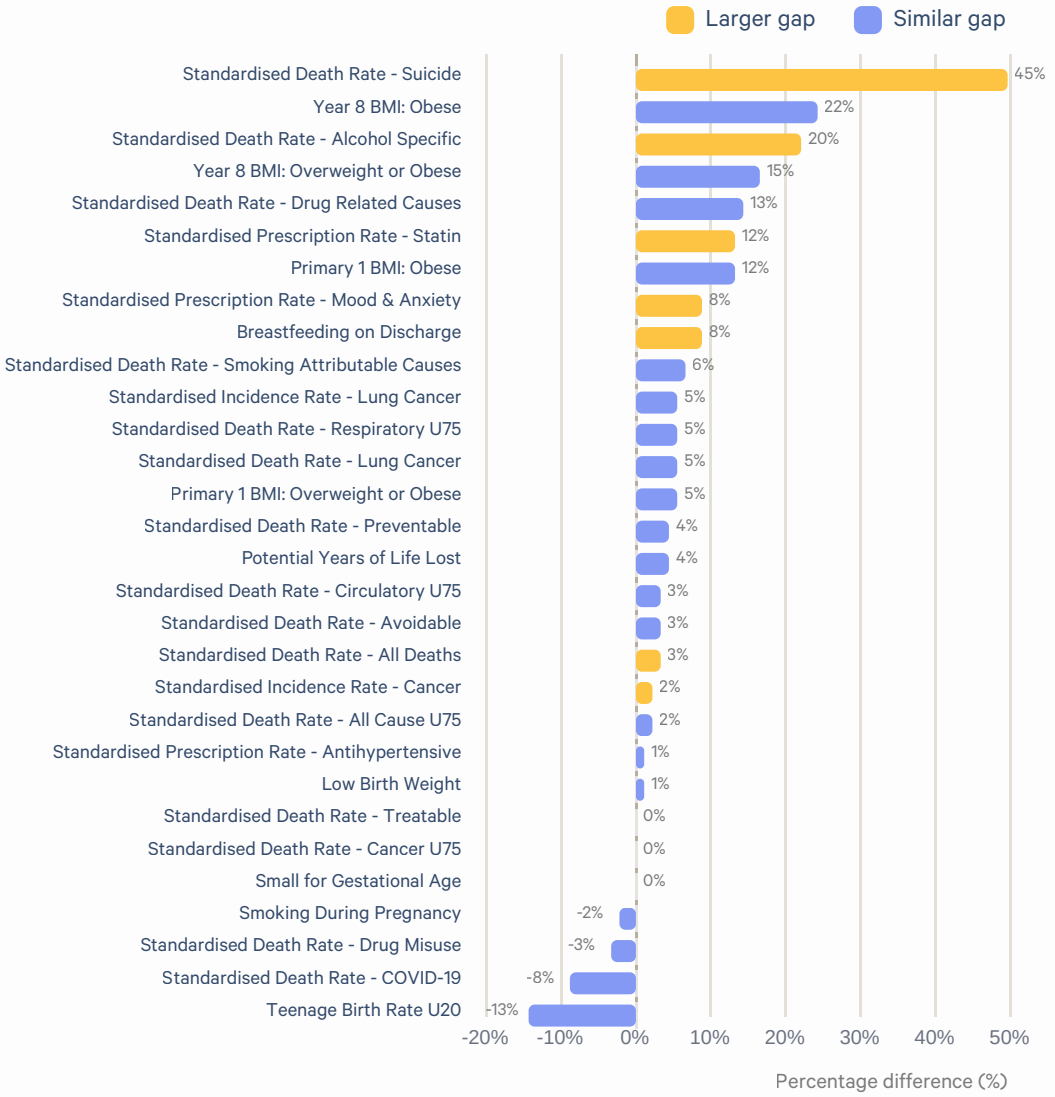


Figure 3 Percentage gaps in selected health outcomes between the Western Trust area and Northern Ireland.

Standardised death rates as shown in Figure 4 are higher in the WHSCT area than the Northern Ireland overall, and in the most deprived areas of the trust, they are considerably higher indicating persistent inequalities in mortality outcomes.

Alongside differences in life expectancy and mortality, wider health inequalities are evident across a range of key outcomes in the Derry and Strabane area. Indicators relating to mental health, substance use, and physical health show substantial disparities compared to the Northern Ireland average. For example, rates of prescribing for antidepressant medication are notably higher, while levels of obesity and being overweight remain significant, with up to 65% of the population affected. Chronic conditions such as diabetes are prevalent as discussed previously, with an estimated 11,000 people living with diabetes and a further 7,000 at risk of diabetes.

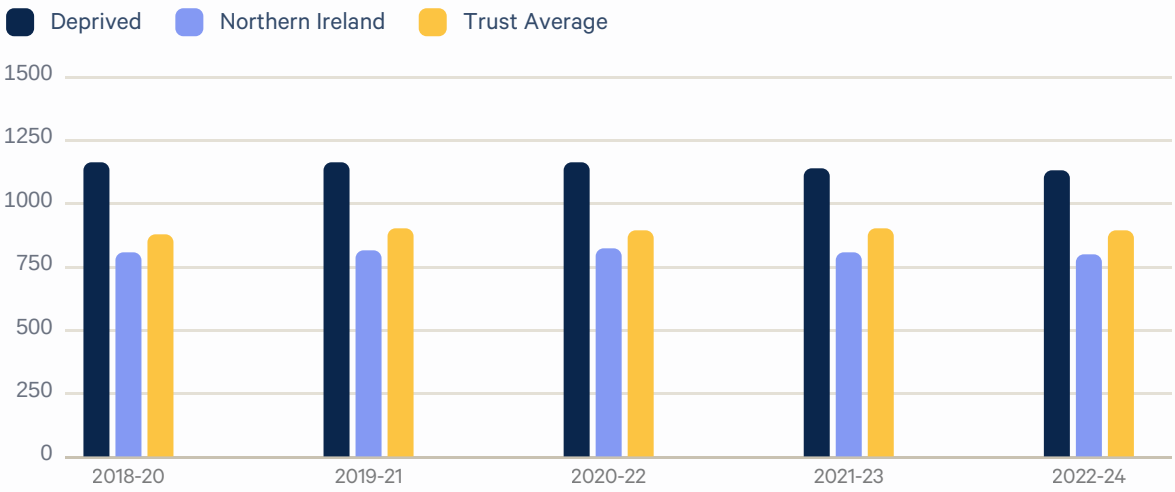


Figure 4 Standardised death rates by deprivation status compared with Trust average and Northern Ireland, 2018–2024.

Particularly stark differences are observed in substance-related harms, with drug-related death rates 159% higher and alcohol-specific death rates 141% higher than the Northern Ireland average. Hospital admissions related to alcohol and drugs are also elevated. In addition, preventable mortality remains a key concern, with rates almost double those seen regionally. Together, these figures highlight the scale and breadth of health inequalities experienced within the area.

These patterns reinforce the importance of accessible, community-based approaches that can support people to engage with their health in meaningful and sustainable ways.

Changing Behaviours

While this evaluation examined the effectiveness of Civic Dollars, it also sought to understand how and why change occurred across different participants and settings. In recognition of the complexity of community-based interventions, the evaluation was informed by realist principles. This means it explored not only programme outcomes but also the mechanisms and contextual factors that appeared to influence participant engagement and behaviour change.

Behaviour change interventions can be defined as sets of activities which are designed specifically to change specified behaviours (Michie et al., 2011) and are the purpose of most public health remits. A 2025 study (Khosrovaneh et al.) found that being at risk of diabetes does not in correlate with motivation to make changes. The study, which was done using data from the Richmond Stress and Sugar Study (Mezuk et al., 2020), found that factors such as social support, time restraints, financial restraints and medical comorbidities are more important determinants of health behaviour.

Models of change

To understand what motivated and supported behaviour change through Civic Dollars, three theoretical models were used as explanatory lenses. They helped interpret how different programme resources appeared to influence behaviour change across participants. The models selected were Motivation theory from Self-Determination Theory (SDT), the COM-B model and the Transtheoretical Model of Behaviour Change (TTM).

Motivation Theory

Intrinsic and extrinsic motivation are central constructs within SDT developed by Edward L. Deci and Richard M. Ryan. These different motivations can be referred to as the heartbeat of behaviour change. Intrinsic motivation refers to engaging in an activity for its inherent satisfaction such as enjoyment, curiosity, or personal meaning, whereas extrinsic motivation involves engaging in behaviour to obtain external rewards. The theory proposes that high-quality, sustained motivation is driven by the fulfilment of three basic psychological needs: autonomy (a sense of choice), competence (feeling effective), and relatedness (connection to others). Importantly, extrinsic exists along a continuum from externally controlled to more internalised forms, where behaviours become aligned with personal values. In behaviour change contexts, including digital health interventions, intrinsically motivated behaviours are typically more durable, while extrinsic incentives can be effective for initiation but may require careful design to support internalisation rather than undermine it (Deci & Ryan, 2000; Ryan & Deci, 2017).

COM-B as a model for change

Another framework used to examine and explain how we can create change is the COM-B framework (West & Michie, 2020). The higher-level components of the COM-B are shown below in Figure 5. The COM-B model observes that a behaviour change will occur only if a person has the capability, opportunity and motivation to make it.

Capability can be physical or psychological. Physical includes the physical ability and the strength needed to perform the behaviour. Psychological is the knowledge and the skill needed to perform the behaviour. Opportunity relates to the physical or social context in which a person exists which can either enable or hinder a behaviour. Opportunity can be physical, such as the physical availability of the source of the behaviour e.g. if a person wants to learn to swim, having access to a swimming pool would give them the physical opportunity. The other element of opportunity is social, related to social norms and influences. Think of the teenager who might want to wear something different but is afraid that their peers will make fun of them as it might be stepping outside the social norm.

Motivation is the final element of the model. Motivation is the psychological drive needed to perform or not perform the behaviour. For example, the will to stop vaping or go to the gym. Without the drive and the intention, the behaviour cannot occur. Motivation includes automatic and reflective elements. Reflective motivation is the process of reflecting and then making plans. It involves the processes of decision-making. Automatic motivation are automatic processes such as impulses and inhibition. An intervention will target one or more of the components in the behaviour change model, with causal links within the system interacting to reduce or amplify the effect by leading to changes elsewhere.

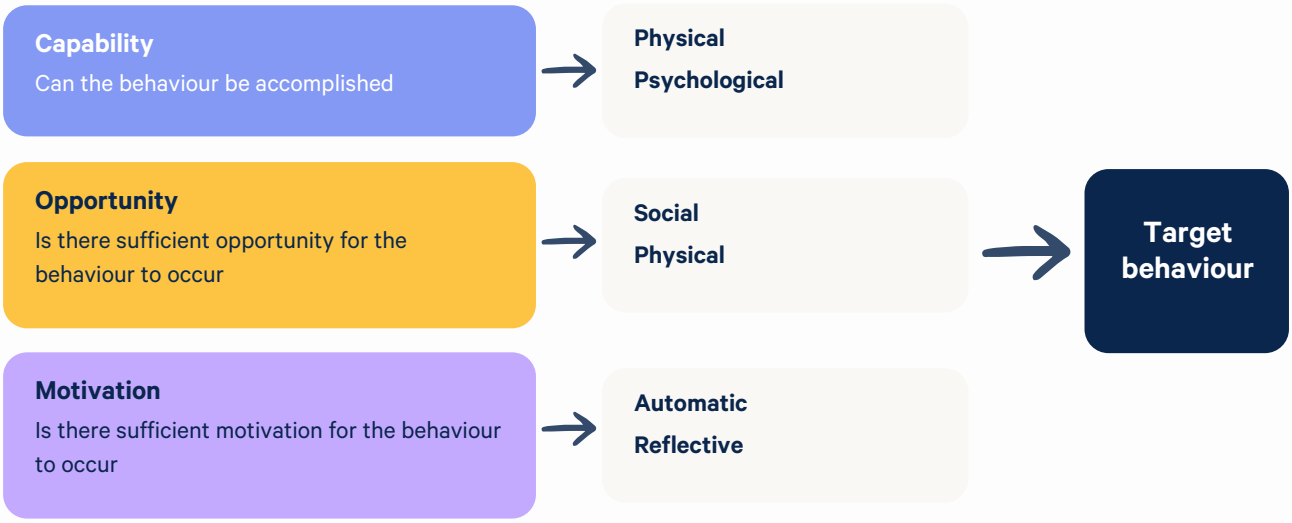


Figure 5 COM-B Components

Transtheoretical Model of Change

The final framework used for examining change is the TTM illustrated in Figure 6. This model looks at the sequence of stages in which change occurs. People may move forwards, pause, or even step backwards before change sticks. The main stages are explained in Table 1. The model is useful to remind us that people need different kinds of support at different stages, and that lasting change is more likely when support matches where someone is on their journey.

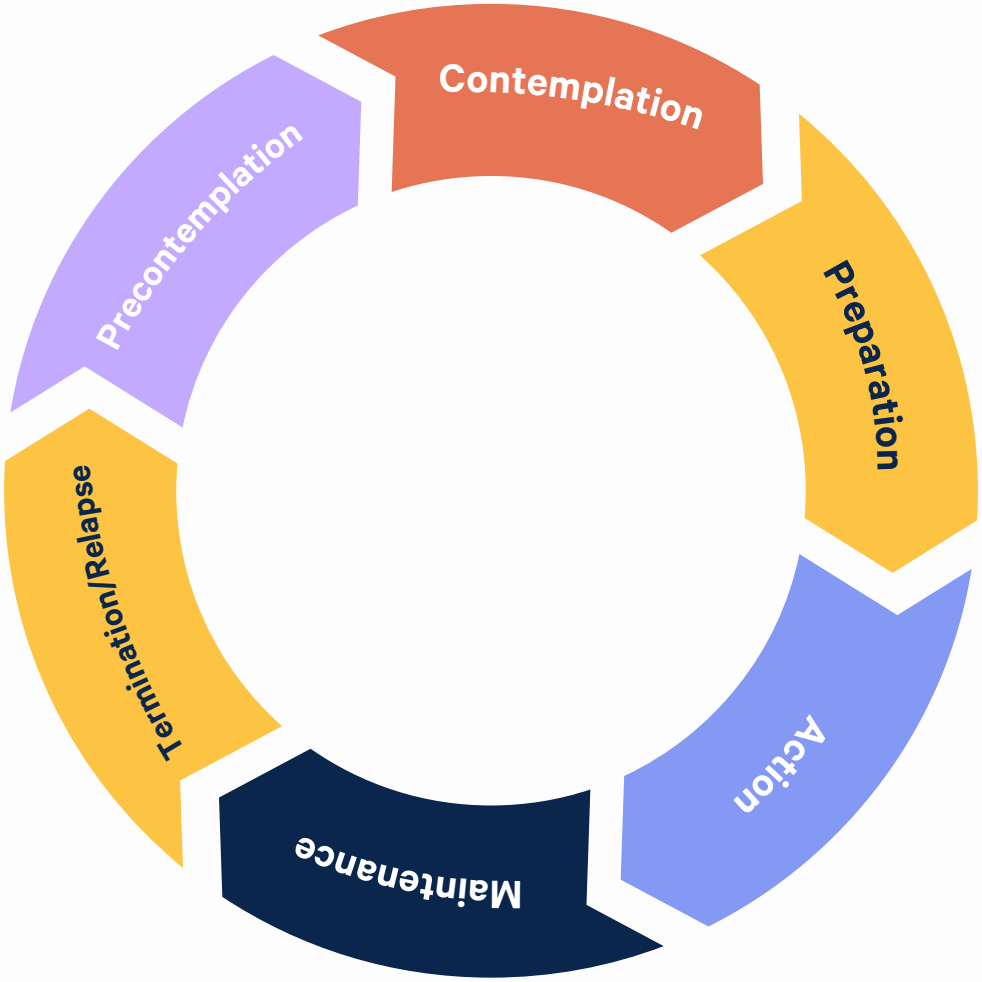


Figure 6 Transtheoretical Model of Behaviour Change

Stage	Behaviour
Precontemplation	Not thinking about change - the person does not see a problem or is not ready to change.
Contemplation	Thinking about change - they start to recognise an issue and weigh up pros and cons.
Preparation	Getting ready - they decide they want to change and begin making plans
Action	They actively do something different
Maintenance	They work to maintain the change over time. This can include lapses as setbacks can happen and are considered part of the process, not failure
Termination/relapse	The change has become part of the persons routine or they have relapsed and the cycle begins again

Table 1 Stages of Transtheoretical Model of Change

Interventions for risk of type 2 diabetes

So, what can we change to prevent or delay the development of type 2 diabetes? Galaviv and colleagues in a 2022 systematic review examined 54 studies, 47 of which were meta-analysed. The studies enrolled 35,289 participants. Studies were based on lifestyle modifications, medication, dietary supplements, Chinese medicine and placebo trials. While both pharmacological and non-pharmacological approaches were found to reverse risk of type 2 diabetes, lifestyle interventions had the strongest evidence of effectiveness. This supports expert statements recommending lifestyle interventions as the first-line approach to treating risk of type 2 diabetes (Echouffo-Tcheugui et al., 2023; Jiang et al., 2022; Sheng et al., 2019, Tabák et al., 2012).

An executive summary of lifestyle interventions for the treatment and remission of type 2 diabetes and risk of type 2 diabetes (Rosenfeld et al., 2025) offers six key elements for any lifestyle intervention. For nutrition it recommends a focus on foods that provide energy and nutrients for health alongside addressing behaviours and social factors that influence food choices. Physical activity is ideally regular and consistent to combat the effects of sedentary behaviour as well as building mental health, overall health and resiliency.

Managing stress focuses on the mechanisms involved in the body's physiological arousal in response to threat. An excess of stress can lead to anxiety, depression, obesity and immune dysfunction to name just a few. In adequate or disordered sleep can create feelings of sluggishness, it can decrease attention span, it can decrease our will to socialise, it can lower our mood, it can decrease daytime calorie burn, it can increase hunger, decrease satiety, lead to insulin resistance and decreased performance. Sleep aspects which are key are duration, timing and quality. A duration of seven to nine hours of sleep a night is associated with optimal health with under six hours and over nine hours being associated with increased mortality.

Social connectedness focuses on positive social connections and relationships which affect physical, mental and emotional health. People need to feel seen, heard and valued which allows them access to sources of sustenance and strength. Tapping into the power of relationships and social networks can help reinforce healthy behaviours. Substances which create risk are tobacco, alcohol and recreational drugs, all leading to increased likelihood of chronic diseases and death.

The role of digital apps in behaviour change

Lifestyle change interventions come in many guises. One of these is digital apps. Many health-related apps are now available which are designed to help people manage both their health and changes they would like to make to improve health. These apps usually focus on small, realistic changes that people can build into everyday life, such as being more active. The power in these digital interventions include that they support independence by giving people tools to manage aspects of their health in their own time and space. They fit around daily life and can be used when it suits the person, rather than at fixed appointment times.

These self-management apps work in several ways. They can help people notice patterns, for example mood, sleep, pain, or activity over time. They can help people set simple goals that feel achievable rather than overwhelming. They can offer reminders or prompts to support routines. Finally, they can provide encouragement through using incentives.

Incentivisation and behaviour change

Financial and reward-based incentives are widely used in behaviour change interventions to promote engagement with health behaviours such as physical activity, weight management, and medication adherence. Evidence from randomized trials and systematic reviews suggests that incentives can increase short-term behavioural engagement and support the initiation of behaviour change, particularly in digital health and activity-tracking interventions (Patel et al., 2019; Finkelstein et al., 2016; Volpp et al., 2008). The research suggests that these strategies work by creating a behavioural economics incentive loop. They provide immediate reinforcement of lifestyle changes, create goal-based motivation, introduce behavioural nudges and increase engagement.

As well as providing rewards, incentive-based interventions can incorporate prosocial elements. These are features which allow people to give rewards earned to local community causes. The use of these prosocial elements has been shown to strengthen motivation by linking individual behaviour to positive social impact (Ankin et al., 2013; Grant, 2008).

Mind the gap

Digital health interventions are subject to low uptake rates and high attritions rates (Van Rhoon et al., 2022). Even when uptake is positive, the intention-behaviour gap can lead to drop out rates being high. The gap reflects the inconsistency between what people intend to do and their actual behaviour. In fact, it is reported that intentions explain approximately 28% of the variance in behaviour change, making the converse true, that 72% of behaviour is not explained by intention (Sheeran, 2002). Many individuals who intend to adopt healthier behaviours do not ultimately act on these intentions.

SECTION 05

Civic Dollars at Developing Healthy Communities

Developing Healthy Communities

Developing Healthy Communities is a charity which has been at the core of effecting change in the North-West of Northern Ireland for over 30 years. Their work centres on transforming lives by enhancing mental, physical and social wellbeing. The organisation is part of the World Health Organisation's Healthy City Network and is engaged in a number of projects which are aimed at enhancing health and wellbeing. In March 2024 DHC convened an event with Diabetes UK which led to the creation of the Western Diabetes Group. The group represents a multiagency focus on the growing issue of diabetes and risk of diabetes in the area. From this a number of projects were born, the collaboration with Civic Dollars being one of them.

Civic Dollars

Civic Dollars is a community currency platform in the form of a downloadable app which is aimed at creating behavioural change. Participants of Civic Dollars earn their community currency by being out and about in geofenced areas known as earn zones. When they accrue enough dollars, they can spend them on real world rewards such as a coffee in one of their local coffee shops or other resources from local providers. Alternatively, participants can donate their dollars to local community partners allowing them to run programmes for the community. The app has been applied successfully in several settings to improve physical and mental health and to encourage people to engage in their communities.

Civic Dollars has a number of core elements. The first is the intention to create healthy behaviour change based on being outside. As well as the possibility that people will walk more as a result of using Civic Dollars, it also promotes connection into the local community.

The second element connects participants of Civic Dollars to groups within the community with the option to donate dollars accumulated to local groups listed on Civic Dollars as community partners. The third core element is that if a person chooses to buy a reward with their accumulated dollars footfall is increased into local businesses again with any associated social interaction that happens as a result.

The Collaboration

Innovate UK supported a collaborative application from Developing Healthy Communities (DHC) and Civic Dollars (CD) as part of their programme to scale innovation in community led approaches to improve health outcomes at a local level. The initiative between aimed to use Civic Dollars in a novel way that had not been tried before. The collaboration wanted to help address the rising prevalence of risk of type 2 diabetes in this area by providing access to a prevention programme incorporating use of the CD platform and its associated reward system. DHC would recruit through their network of local community groups based on the relationships and trust already formed.

This evaluation sought not only to determine whether Civic Dollars achieved its intended outcomes, but also to understand how participants engaged with the programme, which factors influenced progression through different patterns of engagement, and how these findings might inform the future implementation of community-based digital health interventions.

Roisin Cartmill (WHSCT) with Civic Dollars team members Natasha White and Adrian McMenamin kick off the Civic Dollars programme delivered through Clarendon Medical Practice

SECTION 06

Methodology

This section describes the ethical framework for the project, the methods of recruitment, data collection and analysis for the project. Alongside the wider community cohort, a subgroup of participants recruited through GP-based pathways participated in additional evaluation which included additional clinical and psychological outcome measures collected at baseline and follow-up.

Ethical Framework

While this project was undertaken as a programme evaluation rather than formal academic research, ethical considerations informed all stages of design, data collection, analysis and reporting. The Civic Dollars evaluation was conducted within this community-based evaluation framework, guided by principles of respect, inclusion, transparency and participant wellbeing. These principles were embodied in the following.

Respect for Participants

Participation in all evaluation activities was voluntary. Participants were provided with clear information about the purpose of the evaluation, how their information would be used and their right to withdraw from evaluation activities at any stage. Particular attention was paid to ensuring that information was presented in accessible, straightforward language. Individuals were treated as experts in their own experiences, with the evaluation seeking to understand lived experience rather than impose predetermined interpretations.

Informed Choice and Ongoing Consent

Participants were provided with information sheets and consent processes appropriate to the evaluation activities being undertaken. Consent was viewed as an ongoing process rather than a one-time event. Participants were reminded that they could choose not to answer specific questions, pause discussions or withdraw from interviews and focus groups without consequence. Where incentives were offered for participation in interviews, these were designed to recognise participants' time rather than influence responses and where in line with incentives already offered on the Civic Dollars app.

Privacy, Confidentiality and Data Protection

The evaluation was conducted in accordance with GDPR and relevant Developing Healthy Communities data protection procedures. Personal information was stored securely and access was restricted to authorised members of the evaluation team.

Data analysis and reporting focused on aggregated findings wherever possible. Individual quotations were anonymised and care was taken to ensure that participants could not be identified through combinations of demographic or contextual information. Particular consideration was given to the integration of multiple datasets, including app usage data, survey responses and qualitative feedback, to ensure confidentiality was maintained throughout the matching and analysis process.

Inclusion and Accessibility

The evaluation sought to hear from a broad range of participants, including individuals with differing levels of engagement with the Civic Dollars programme. Recognising that community participation is often shaped by social, economic and health-related factors, multiple opportunities were provided for participants to contribute through surveys, interviews, focus groups and informal conversations. Efforts were made to reduce barriers to participation by offering flexible methods of engagement and ensuring that participants could choose the format that best suited their circumstances.

Minimising Harm and Promoting Wellbeing

Although the evaluation focused on community participation rather than clinical measures, discussions might have occasionally touched upon experiences of loneliness, health challenges, social isolation and wellbeing. Evaluation activities were conducted in a manner that prioritised participant comfort and psychological safety. Participants were not required to discuss experiences they did not wish to share and interview approaches were designed to be conversational, respectful and supportive.

The researcher remained mindful that participation should never leave individuals feeling exposed, judged or disadvantaged.

Community-Centred Evaluation

The evaluation recognised that communities are not simply subjects of evaluation but partners in understanding change. Alongside measuring outcomes, the evaluation sought to understand participants' experiences, motivations and barriers. Qualitative methods were included to ensure that the voices of participants could sit alongside quantitative metrics and help explain patterns observed within the data. This approach reflects a commitment to valuing lived experience as a legitimate and important source of evidence.

Honest and Transparent Reporting

Findings have been reported with a commitment to transparency and accuracy.

The evaluation presents both positive outcomes and areas where engagement was limited or challenges were encountered. Care has been taken to avoid overstating findings or making claims that are not supported by the available evidence. Where limitations exist, these have been acknowledged openly.

Proportionate Evaluation Practice

As a programme evaluation, the approach adopted was proportionate to the purpose and scale of the programme. Data collection requirements were balanced against the need to minimise burden on participants and community partners. The evaluation sought to gather meaningful evidence while respecting participants' time and avoiding unnecessary data collection.

Equity and Social Value

The evaluation was informed by a commitment to equity and social value. Recognising the significant health, social and economic inequalities experienced across the Derry City and Strabane LGD, the evaluation sought to understand not only whether outcomes occurred, but who benefited, who participated and what barriers remained.

Attention was given to ensuring that findings could support future decision-making aimed at reducing inequalities and improving opportunities for community participation.

Learning Rather Than Judgement

The primary purpose of the evaluation was learning and improvement. Rather than judging individuals or organisations, the evaluation sought to understand how Civic Dollars operated in practice, what facilitated engagement, what limited participation and how future programmes might be strengthened. This learning-oriented approach reflects the values of developmental and community-centred evaluation practice.

Maximising Learning Responsibly

Evaluation data represent a contribution made by participants, communities and funders. We therefore believe there is an ethical responsibility to maximise the learning generated from those data. This includes undertaking exploratory analyses where appropriate, provided they remain transparent, proportionate and grounded in the original purpose of the evaluation. Interpretations are presented as exploratory and hypothesis-generating rather than confirmatory, ensuring that conclusions remain aligned with the strength of the evidence.

Valuing Non-Participation

Not everyone who registered with Civic Dollars became an active user. Rather than viewing non-use as failure, the evaluation recognised disengagement as valuable data in its own right. Efforts were made to understand barriers, competing priorities and contextual factors that influenced participation. This approach acknowledges that community programmes operate within complex lives and that understanding who does not engage can be as important as understanding who does.

Summary

Ethical practice within this evaluation extended beyond data protection and consent procedures. It was reflected in how participants were engaged, how their stories were represented, how findings were interpreted and how evidence was used. The evaluation sought to uphold the dignity, autonomy and lived experience of participants while generating meaningful learning for the development of the Civic Dollars app and future community health initiatives.

Recruitment

There were four strands of recruitment as shown in Figure 7.

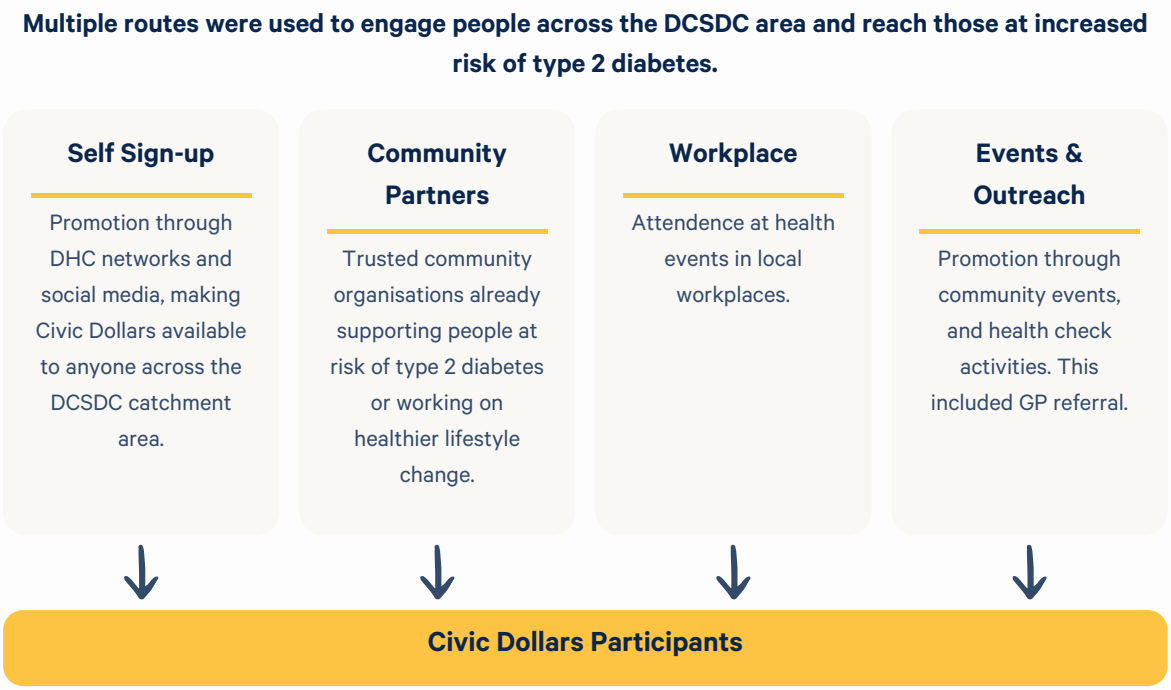


Figure 7 Recruitment Pathways into Civic Dollars

Data Collection

Overall Study

Data collection was both quantitative and qualitative to provide breadth of experience and depth of experience. Methods of data collection at three different project time points are shown in Figure 8.

To get an overall view of how participants were doing in their lives, we asked a series of questions about health, wellbeing, emotions, social connection, lifestyle, and use of healthcare services. These included widely used personal wellbeing questions (life satisfaction, feeling that life is worthwhile, happiness, and anxiety), alongside single-item measures of general health, mental health, activity limitation, physical activity, nutrition, and healthcare use. We also included questions about social relationships and loneliness, and about recent positive and negative emotional experiences.

Together, these items provide a broad picture of participants' physical health, mental wellbeing, social connectedness, health behaviours, and service needs. While these questions do not form one single "scale," they offer a comprehensive overview of different aspects of wellbeing that are known to influence one another.

We also used creative qualitative data collection methods as part of focus groups or one to one interview sessions. Skilled facilitation by people with a warm demeanour was important. We made our methods as relaxed and fun as possible. As a result, it is hoped participants felt more engaged and more invested in owning the results of the evaluation. Using alternative methods to verbalising thoughts and feelings was a useful way to help participants remember and describe events and feelings. They can be of particular use for non-English speakers or people with communication difficulties.

For participants who came to Civic Dollars through targeted community groups feedback session were held as 'a chat and a cuppa' or as a 'walk and talk interview', focusing on a more informal approach which fits in with the ethos and feel of the community spaces entered by the project team. Participants could submit a piece of art, do a short interview or they could write about their experiences on the programme. Visual methods of capturing data can be used to draw out perspectives and feelings that may not have been shared through words. Storytelling can be a powerful way to communicate the impact of a programme. It can be used to build trust with participants and increase their engagement. It is also a powerful tool to drive action. It allows people to connect with readers and show the impact of the work in a real and relatable way.

To enhance participant reach, a second structured MS Forms questionnaire was developed for end point data collection. Informed by behaviour change theory and iteratively shaped by emerging findings from the qualitative interviews, the questionnaire explored motivational drivers, barriers, and enablers influencing Civic Dollars engagement. It also collected self-reported changes in health, wellbeing, physical activity, movement, social connection, and community participation.

This sequential mixed-methods approach enabled qualitative insights to directly inform the development of data collection tools ensuring that questionnaire content reflected authentic participant experiences. The combination of in-depth interviews and broader structured feedback provided a more comprehensive understanding of engagement patterns, perceived outcomes, and opportunities for service improvement.

Civic Dollars researcher Dr Grainne McAnee conducing a walk and talk interview with a member of Waterside Neighbourhood Partnership

Multiple timepoints were used to create the Civic Dollars longitudinal dataset

Baseline · T1

Quantitative

- Demographics
- Health status
- Functionality
- Mood
- Belonging
- Social Support

Ongoing · T2

Quantitative

- App Usage

Endline · T3

Quantitative

- Health status
- Functionality
- Mood
- Belonging
- Social Support
- App Usage
- App Motivators
- Outcomes
- Barriers
- Improvements

Qualitative

- 1-2-1 Interviews
- Focus groups

Civic Dollars Dataset

Figure 8 Data Collection Methods and Timepoints

GP additional evaluation subgroup

Alongside the wider community cohort, additional evaluation was undertaken with participants recruited through GP-based community social work pathways at Clarendon Medical and at Castlederg Medical. This subgroup was included to provide a richer understanding of the potential health and wellbeing impacts of participation within a primary care context, where additional clinical and psychological outcome data could be collected as part of routine evaluation activity.

Participants in this subgroup completed the same data collection points as all other participants with some additional measures. Measures in one surgery included relevant the HbA1c blood test. We also included validated psychological outcome measures. These were the Patient Health Questionnaire (PHQ-9), a widely used measure of depressive symptoms, and the Generalised Anxiety Disorder scale (GAD-7), a validated measure of anxiety symptoms. These additions provided an opportunity to explore potential changes in both physical and psychological wellbeing, complementing the wider mixed-methods evaluation.

As this work was undertaken as part of programme evaluation and programme learning the focus was on understanding outcomes and improving practice. Participation was voluntary, participants were informed about the purpose of data collection, and confidentiality was maintained throughout. The embedded community social work model also provided an important layer of support for participants who may have experienced emotional or health-related vulnerability. The medical practices stored all medical data. The final GP subgroup sample comprised 19 participants.

Analysis

This report was designed as a programme evaluation rather than hypothesis-driven research. As such, the analyses reported are exploratory and were undertaken to maximise learning from evaluation data. Where patterns emerged across the quantitative and qualitative findings, these were used to develop interpretive explanations of participant engagement. These interpretations are intended to support understanding of the findings and generate hypotheses for future evaluation and research, rather than to establish or validate a new theoretical model.

A mixed-methods approach was adopted to evaluate participant engagement with Civic Dollars, combining objective behavioural data from the Civic Dollars platform, quantitative survey data and qualitative participant feedback. Quantitative analyses were undertaken sequentially to characterise behavioural engagement, identify factors associated with engagement pathways and examine changes in participant outcomes over time. Qualitative analyses were subsequently undertaken to provide contextual understanding of participant experiences and to support interpretation of the quantitative findings.

Quantitative Analysis

All analyses were performed in R studio (2026.05.1 Build 225).

Data cleaning and preparation

Behavioural engagement data were extracted directly from the Civic Dollars platform and therefore did not rely on participant self-report. The app dataset was made up of behavioural measures including minutes outdoors, number of visits, reward redemption and community donation. As these data were generated automatically by the platform, no missing behavioural engagement data were present. This sample contained 474 participants.

Baseline survey responses were cleaned and standardised prior to analysis. Email addresses were converted to a consistent format by removing leading and trailing spaces and converting all text to lowercase to maximise successful matching between survey responses and app records. Survey responses were subsequently linked to app data using email address, resulting in a matched dataset of 237 participants.

Participant demographic variables were reviewed for completeness and consistency. Continuous variables were converted to appropriate numeric formats where required, while categorical variables were grouped into analytically meaningful categories where appropriate. Missing survey data were minimal and were confined primarily to a small number of demographic responses. Descriptive and exploratory analyses were undertaken using all available data for each variable. Complete case analysis was used for multivariable modelling, resulting in a final analytical sample of 227 participants.

End of evaluation survey data were reviewed for completeness, consistency and duplicate responses prior to analysis. Where duplicate responses were identified, only the most recent completed questionnaire was retained to ensure each participant contributed a single response to the dataset. Minor data cleaning included the standardisation of response categories and verification of variable coding. Analyses were conducted using available data, with the number of people who completed reported where missing responses resulted in variation across survey items. Questions that were applicable only to a subset of participants (e.g., self-reported changes in diabetic blood results) were analysed using the number of valid responses for that item

Development of Behavioural Engagement Pathways

Behavioural engagement was conceptualised as progression through distinct patterns of app use rather than as a single measure of activity. While total minutes outdoors provided an important indicator of programme engagement, this does not distinguish between participants who simply recorded activity and those who progressed to engage with key behavioural components of the intervention, including reward redemption and community donation.

To better reflect meaningful differences in participant engagement, four mutually exclusive behavioural engagement pathways were developed using objectively recorded app data:

- **Registered Only:** Participants who registered for Civic Dollars but recorded no app activity.
- **Active Only:** Participants who recorded activity but neither redeemed rewards nor made community donations.
- **Redeemer:** Participants who progressed to redeeming rewards but had not made community donations.
- **Donor:** Participants who progressed to making community donations, representing the highest observed level of behavioural engagement within the programme.

These pathways were developed to provide an interpretable framework for understanding progression through Civic Dollars and formed the primary outcome measure for subsequent quantitative analyses.

Analytical Strategy

Quantitative analyses were undertaken sequentially. Initial descriptive analyses summarised participant characteristics and behavioural engagement. Exploratory bivariate analyses were subsequently undertaken to examine associations between behavioural engagement pathways and participant characteristics, psychosocial measures and recruitment approach.

Findings from these exploratory analyses informed the subsequent multivariable modelling, allowing independent associations to be examined after adjustment for other characteristics. This sequential analytical approach ensured that statistical modelling complemented, rather than replaced, exploratory interpretation of the data. Variables included within the multivariable model were therefore selected on the basis of exploratory findings and theoretical relevance rather than automated statistical selection procedures.

Bivariate Analysis

Exploratory analyses examined associations between behavioural engagement pathways and participant characteristics including age, gender, economic activity, living arrangements, sense of community belonging, loneliness and recruitment approach.

Continuous variables were summarised using means and standard deviations alongside medians and interquartile ranges where appropriate. Differences between behavioural engagement pathways were examined using the Kruskal-Wallis test.

Associations between categorical variables and behavioural engagement pathways were examined using Pearson's Chi-square test. Where expected cell counts were small, Fisher's Exact Test with Monte Carlo simulation was undertaken to provide more reliable estimates of statistical significance. Effect sizes for categorical associations were reported using Cramér's V to support interpretation of practical significance alongside statistical significance. Throughout the analysis, emphasis was placed on interpretation of observed patterns and effect sizes rather than statistical significance alone.

Classification of Recruitment Approaches

Recruitment was initially classified according to the specific route through which participants entered Civic Dollars, comprising Community Group, Outreach Events, GP Referral, Self Sign-up and Workplace recruitment.

Prior to analyses, recruitment categories were reviewed to ensure sufficient observations within each group to support reliable statistical estimation. The GP Referral subgroup contained a small number of participants and represented the same underlying implementation approach as other programme-led recruitment activities, whereby participants were introduced to Civic Dollars through direct contact with the project team or delivery partners, including community events, presentations and health promotion activities.

Consequently, GP Referral was combined with these programme-led recruitment activities to create a single Outreach Event category. Outreach Events comprised participants recruited through programme-led activities including GP referrals, health events, presentations and other community engagement activities. All inferential analyses examining recruitment approach were therefore undertaken using four recruitment approaches:

- Community Group
- Outreach Event
- Self Sign-up
- Workplace

This classification reflects distinct implementation approaches rather than simply locations of recruitment, enabling comparison of how different approaches to programme introduction were associated with subsequent behavioural engagement.

Multivariate Analysis

Multivariable multinomial logistic regression was undertaken to examine which participant and implementation characteristics remained independently associated with behavioural engagement pathways following adjustment for other measured variables.

Behavioural engagement pathway was specified as the dependent variable, with Registered Only serving as the reference category. Predictor variables included age, gender, economic activity and recruitment approach. Community Group recruitment was selected as the reference recruitment category, reflecting the largest recruitment group and enabling comparison with the implementation approach demonstrating the strongest observed engagement during the exploratory analyses.

The purpose of the multivariable analysis was not to replace the exploratory analyses but to determine which participant and implementation characteristics remained independently associated with progression through the behavioural engagement pathways after adjustment for other measured characteristics.

End of evaluation survey analysis

An end-of-evaluation survey was distributed to Civic Dollars participants after the evaluation period. The survey repeated the principal baseline psychosocial measures, including wellbeing, loneliness and sense of community belonging, to enable assessment of change over time among participants who completed both surveys. Where participants completed the survey more than once, only the most recent completed response was retained so that each participant contributed a single observation reflecting their final programme experience. Participants were matched between baseline and endpoint surveys using email address, and paired analyses were planned to examine changes in self-reported outcomes over the course of programme participation. The statistical test used for each outcome was determined by its distribution and level of measurement.

Changes in participant-reported outcomes between baseline and end of evaluation were examined using paired statistical tests. Normality of change scores was assessed using the Shapiro-Wilk test. Where the assumption of normality was met, paired t-tests were undertaken and Cohen's d effect sizes were calculated. Where normality assumptions were violated, Wilcoxon signed-rank tests were used. Outcomes examined included general health, mental health, physical activity, nutrition, social connectedness, wellbeing and quality of life.

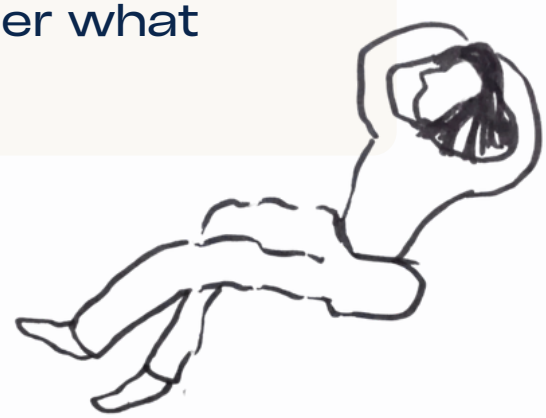
In addition to repeated outcome measures, the end of evaluation survey explored participants' experiences of Civic Dollars, perceived programme impact, satisfaction with the app, perceived barriers and facilitators to engagement, intentions regarding continued use and perceived personal achievements. These data were analysed descriptively, with free-text responses integrated with the qualitative findings to provide contextual understanding of programme impact and participant experience.

Qualitative Analysis

Qualitative data were collected through semi-structured interviews with participants who had taken part in the Civic Dollars programme. Interviews explored participants' experiences of the programme, perceived impacts on health and wellbeing, barriers and facilitators to engagement, and suggestions for future development. Interviews were audio recorded with participant consent, transcribed verbatim and anonymised prior to analysis.

The qualitative analysis was informed by a realist evaluation perspective, with the aim of understanding not only participants' experiences but also the underlying mechanisms through which the programme appeared to influence behaviour and wellbeing within different contexts. Rather than asking simply what participants experienced, the analysis sought to answer the realist question:

> What works, for whom, under what circumstances, and why?



Analytical Strategy

Analysis followed an iterative and reflexive process combining inductive coding with theory-informed interpretation. Initially, each transcript was read in full to gain familiarity with the participant's account. Open coding was then undertaken to identify meaningful statements describing participants' experiences, perceived changes, barriers, facilitators and explanations for behaviour change. Rather than producing a traditional thematic analysis, coding focused on identifying:

- contexts influencing participation;
- potential mechanisms through which change occurred;
- reported outcomes;
- implementation insights relevant to programme delivery.

Following analysis of each interview, findings were entered into a structured qualitative analysis workbook. This served as an evolving audit trail and included:

- an interview summary;
- a coded quote bank;
- an emerging programme theory log;
- implementation evidence;
- reflexive analytic notes documenting developing interpretations and methodological decisions.

The programme theory was refined iteratively throughout analysis, with each successive interview contributing to, challenging or refining emerging explanations. This constant comparison allowed mechanisms identified in earlier interviews to be tested across subsequent participants.

End of evaluation qualitative data

To complement the interview and focus group findings, free-text responses from the end of evaluation survey were also analysed. These responses provided a broader perspective on participants' experiences and were used to triangulate the findings from the in-depth qualitative interviews. The survey comments were reviewed using the same iterative analytical approach. Responses were coded against the emerging mechanisms, contexts, outcomes and implementation issues identified during the primary qualitative analysis. Where new insights emerged, these were incorporated into the evolving programme theory. Where findings converged with the interview data, they strengthened confidence in the emerging explanations. This process enabled both qualitative datasets to be synthesised while recognising the differing depth and purpose of interviews and survey comments.

Interpreting the findings

Once coding had been completed, findings were interpreted through the lens of our behaviour changes models. The COM-B model was used to explore how participants' capability, opportunity and motivation influenced engagement with the programme.

The TTM provided a framework for understanding participants' differing levels of readiness for behaviour change and the progression from contemplation through to maintenance. Finally, the importance of intrinsic motivation, particularly participants' descriptions of purpose, autonomy, competence and social connectedness as drivers of sustained behaviour change. These theories were used to interpret and explain the findings rather than to constrain coding or predetermine patterns.

Rigour

Several strategies were employed to enhance the trustworthiness of the qualitative findings. Analysis was conducted iteratively across interviews, allowing emerging explanations to be continuously refined through comparison with new data. A structured audit trail documented coding decisions, programme theory development, implementation insights and researcher reflexivity throughout the analytical process.

Reflexive notes were maintained after each interview to record developing interpretations and alternative explanations, helping distinguish descriptive findings from emerging theoretical explanations. Rather than seeking statistical generalisability, the analysis aimed to develop explanatory understanding of the contexts and mechanisms associated with successful programme engagement and behaviour change.

GP additional measures subgroup

The GP sub-group were analysed as part of the overall participant data for both quantitative and qualitative analysis. They completed additional measures in the form of the PHQ-9 and the GAD-7. Given the small sample size, comparisons were used to explore potential changes in outcome measures, including relevant clinical indicators alongside PHQ-9 and GAD-7 scores. As this component formed part of a programme evaluation with a modest participant group, analysis was interpreted cautiously and intended to identify indicative patterns of change and practical learning rather than to support formal hypothesis testing.

SECTION 07

Results

The results are presented using five complementary sources of evidence as shown in Figure 9. Behavioural data from the Civic Dollars app provide the primary foundation for understanding participation and engagement across the full user population (n = 474). These data are used to examine programme reach, activation, engagement patterns, reward redemption, and civic contribution.

Baseline survey data where matches were possible to app usage (n=237). Excluding users with missing data on one or more of the variables used for prediction (n=227) these were then used to explore whether demographic characteristics, wellbeing measures, or recruitment routes are associated with different patterns of engagement.

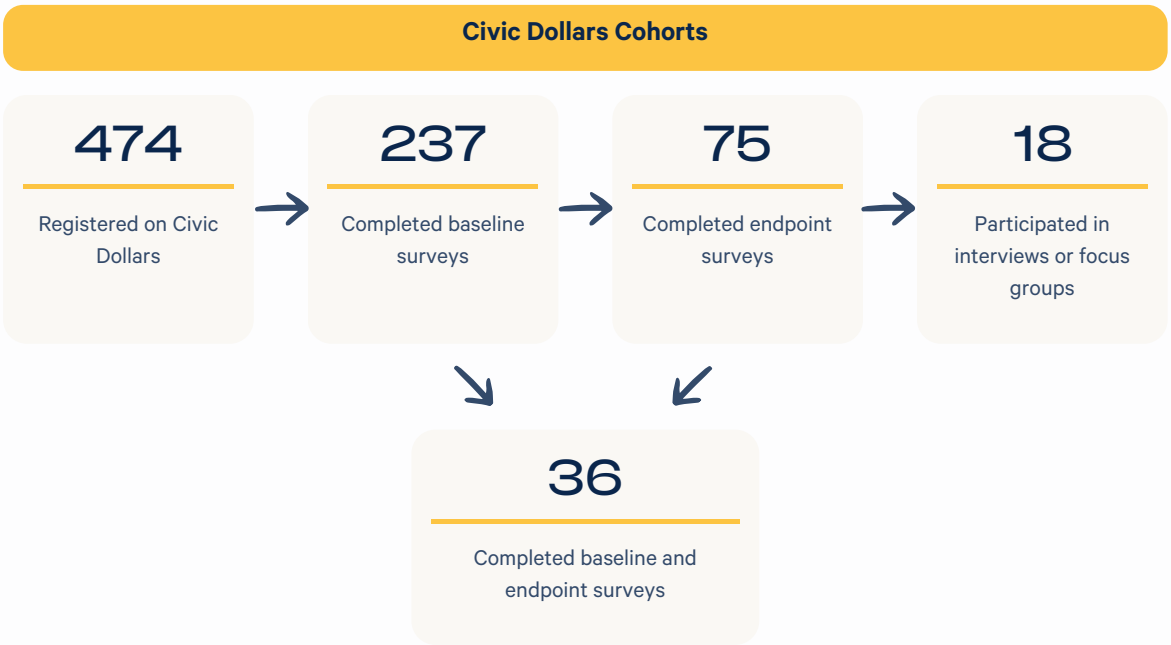


Figure 9 Cohorts that made up the Civic Dollars dataset

Findings from the end of evaluation survey are presented to explore participant-reported outcomes and changes associated with programme participation (n=75) with 36 matched to baseline surveys. Finally qualitative findings from interviews and focus groups (n= 18) are presented are explored to provide insight into participant experiences and to help explain the behavioural patterns observed within the app data.

The results are structured around a central question:

how do people engage with Civic Dollars over time?

The analysis therefore begins with patterns of app usage across the full user population before exploring the factors and experiences associated with different engagement pathways.

Quantitative Results

Missing Data

The app dataset contained no missing engagement data, as behavioural metrics (minutes, visits, reward redemption and donations) were extracted directly from the Civic Dollars platform. The matched survey dataset had 237 participants successfully linked to app records using email address.

Levels of missing data within the survey variables were low and were confined primarily to a small number of demographic responses. Descriptive and exploratory analyses were undertaken using all available matched data for each variable. For the multivariable regression analysis, a complete case approach was adopted, resulting in a final analytical sample of 227 participants.

For the matched pre/post sample, missing data were handled using complete-case analysis. Participants were included only where both baseline and follow-up responses were available for the outcome being analysed. As a result, the paired analyses were based on 36 matched participants (35 for the “Worthwhile life” outcome due to one missing follow-up response). This was the smallest sample as not everyone completed the end of evaluation survey while some used different emails and could therefore not be matched. Attrition of this kind is normal in community evaluations, making the availability of a full set of objective, longitudinal data from app usage a key strength of this evaluation.

Overall end of evaluation survey completion was excellent in terms of missingness. Fifty-nine per cent of participants completed every survey item, while 87% completed all but three questions. Missing data for quantitative questionnaire items were minimal, with most variables containing fewer than 3% missing responses and none exceeding 4%, with the exception of one conditional question relating to repeat diabetic blood tests. Higher levels of non-response occurred only for optional free-text questions, where between 77% and 89% of participants chose to provide additional comments. Quantitative analyses were conducted using complete-case analysis for each variable.

Participant Overview

Usage of the Civic Dollars app is reported on the entire sample of people who registered on the app. This data is objective as opposed to self-report and taken from the Civic Dollars app itself. The outcomes are shown in Table 2.

Usage Measurement	Value
Total registered users	474 people
Active users	266 people
Non-users	208 people
Activation rate	56.4%
Total minutes recorded	1208000
Total hours recorded	20133
Total visits recorded	7789
Total rewards redeemed	5008
Total donations made	5133

Table 2 Overall Civic Dollars usage measures for all participants

Behavioural engagement pathways

While summary usage statistics provide insight into overall reach and engagement, they reveal little about how participants progressed through the programme. To better understand patterns of participation, the next stage of analysis examined the pathways users followed from registration through to reward redemption and civic contribution.

Analysis of app usage data identified four broad engagement pathways. Of the 474 registered users, 208 (44%) registered but recorded no subsequent activity. A further 99 users (21%) engaged with the app but did not redeem rewards or make donations. Reward redemption was observed among 123 users (26%), while 44 users (9%) progressed to donating to community partners. These pathways suggest that participation in Civic Dollars extended beyond simple app use, with some users moving towards increasingly active forms of engagement and civic participation.

Progression through engagement

Table 3 presents median activity levels across the four engagement pathways identified within the Civic Dollars user population. A clear pattern of increasing engagement was observed across the pathways. Users classified as Active Only recorded a median of 136 minutes and three visits, while Reward Redeemers recorded substantially higher activity levels, with a median of 1,152 minutes and 12 visits. The highest levels of engagement were observed among Donors, who recorded a median of 2,342 minutes and 22.5 visits.

Engagement Pathway	Median Minutes	Median Visits
Registered Only	0	0
Active Only	136	3
Redeemer	1152	12
Donor	2342	22.5

Table 3 Median activity levels across the engagement pathways

This progressive increase in both activity and visits suggests that reward redemption and donation are associated with increasingly deep forms of participation. While these pathways do not necessarily represent fixed stages that all users move through, the pattern is consistent with a broader engagement journey in which users progress from initial participation towards more sustained and community-oriented forms of engagement.

To better understand how participation changed with increasing engagement, active users were ranked according to their activity levels and divided into four equally sized groups. This allowed comparison between the least engaged and most engaged users, as well as those in between. By examining reward redemption and donations across these groups, it was possible to explore whether deeper engagement with Civic Dollars was associated with different patterns of participation.

Rates of reward redemption and donation were calculated as the proportion of users within each engagement quartile who had redeemed at least one reward or donated at least one dollar during the evaluation period (Table 4). A clear relationship was observed between engagement and participation in both reward-based and donation behaviours.

Quartile Group	Redeem Rate	Donate rate
Lowest 25%	20.7%	3.5%
Next 25%	48.3%	5.2%
Next 25%	67.2%	12.1%
Highest 25%	86.2%	34.5%

Table 4 Redeem and donate rates per quartile of active users

Reward redemption increased steadily from 20.7% among the least engaged users to 86.2% among the most engaged users. A similar pattern was evident for donations, increasing from 3.5% in the lowest engagement quartile to 34.5% in the highest. These findings suggest that deeper engagement with Civic Dollars was associated not only with increased activity levels, but also with greater participation in both reward redemption and community donation.

Factors associated with engagement pathways

Recruitment Context

An exploratory analysis on the cohort of users who completed baseline surveys examined whether participants' engagement pathways differed according to their recruitment route. Inspection of the distribution of behavioural engagement pathways suggested notable differences according to recruitment approach (Table 5). Participants recruited through Community Groups demonstrated the highest levels of progression beyond registration, with almost half progressing to the Redeemer or Donor pathways (48.3%). Similarly, participants who registered independently through Self Sign-up also demonstrated relatively high levels of progression, with 47.7% progressing to the Redeemer or Donor pathways. Participants recruited through Outreach Events showed intermediate levels of engagement, while those recruited through Workplace initiatives were substantially more likely to remain at the Registered Only stage (74.5%) and were considerably less likely to progress to either the Redeemer (8.5%) or Donor (4.3%) pathways.

Recruitment Type	Registered Only	Active Only	Redeemer	Donor
Community Group (n=116)	33 (28.4%)	27 (23.3%)	38 (32.8%)	18 (15.5%)
Outreach Events (n=32)	12 (37.5%)	8 (25.0%)	10 (31.2%)	2 (6.2%)
Self Sign-up (n=42)	15 (35.7%)	7 (16.7%)	13 (31.0%)	7 (16.7%)
Workplace (n=47)	35 (74.5%)	6 (12.8%)	4 (8.5%)	2 (4.3%)

Table 5 Recruitment approach by behavioural engagement pathway (counts and row percentages)

Note. Values are presented as frequency (row percentage). Association tested using Pearson's Chi-square ($\chi^2(9) = 33.25$, $p < .001$). Fisher's Exact Test with Monte Carlo simulation confirmed the finding ($p < .001$). Effect size: Cramér's V = 0.22.

Recruitment approach was significantly associated with behavioural engagement pathway ($\chi^2(9) = 33.25$, $p < .001$). Fisher's Exact Test produced a consistent result ($p < .001$), supporting the robustness of the findings despite small cell counts. The strength of the association was small to moderate (Cramér's V = 0.22).

Figure 10 illustrates the relationship clearly. Those who were recruited through already established community groups had the highest chance of using Civic Dollars while those who were recruited through workplace events had the least likelihood of using the app. Figure 11 shows the way in which users engaged with Civic Dollars depending on the recruitment pathway. Those recruited through community groups were more active and also more likely to become redeemers and donors. Those recruited through workplaces were least likely.

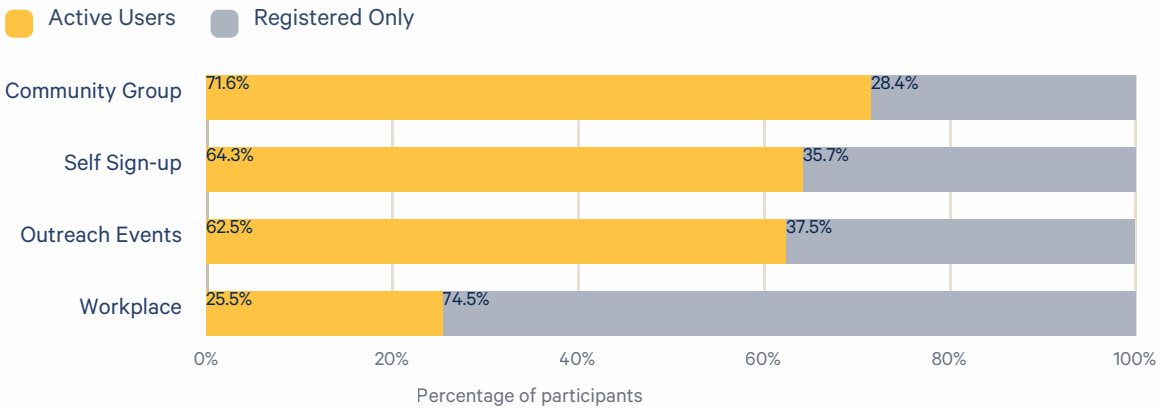


Figure 10 Stacked bar chart showing use of Civic Dollars by recruitment type

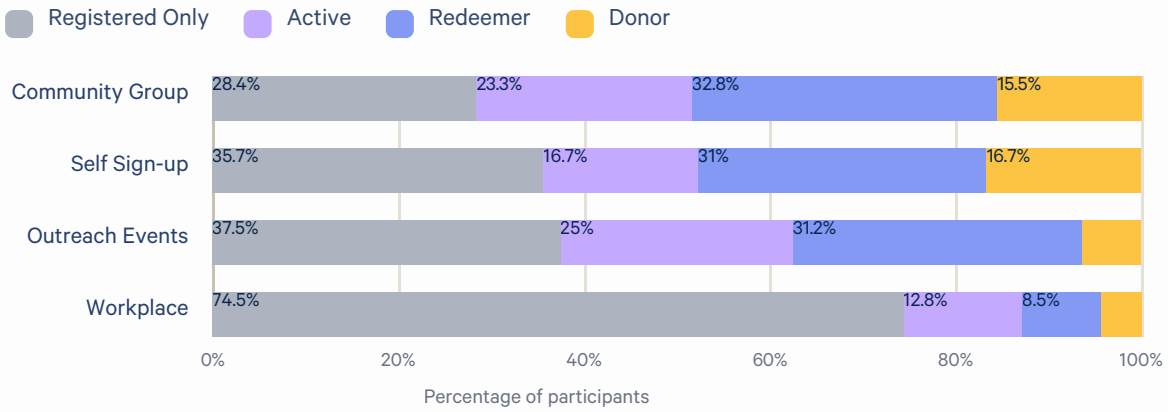


Figure 11 Stacked bar chart showing engagement pathways through Civic Dollars by recruitment type

Participant characteristics

To further explore factors associated with behavioural engagement, a small number of baseline demographic and wellbeing variables were selected for exploratory analysis. Variables were chosen based on their theoretical relevance to community participation and health behaviour change, together with their potential importance for future programme implementation. The analysis focused on characteristics considered most likely to influence engagement pathways, including age, gender, employment status, living arrangements and community belonging. As this was an exploratory programme evaluation, the purpose of these analyses was to identify potentially meaningful patterns that could inform programme delivery and generate hypotheses for future evaluation and research.

Age

Participant age where provided was examined to explore whether age was associated with progression through the behavioural engagement pathways. Descriptive statistics for each pathway are presented in Table 6.

Behavioural engagement pathway	n	Mean age (SD)	Median age (IQR)
Registered Only	91	45.4 (16.9)	46 (30.0)
Active Only	47	52.3 (16.7)	56 (21.0)
Redeemer	65	48.5 (14.4)	47 (23.0)
Donor	28	48.7 (12.4)	47 (19.2)

Table 6 Participant age by behavioural engagement pathway

Participant age varied only modestly across the behavioural engagement pathways. The mean age ranged from 45.4 years among Registered Only participants to 52.3 years among Active Only users, while median ages were similar across the Registered Only (46 years), Redeemer (47 years) and Donor (47 years) pathways. Although participants progressing beyond registration tended to be slightly older on average, the considerable overlap in age distributions indicates that participants of a wide range of ages were represented across all four behavioural engagement pathways.

A Kruskal-Wallis test was conducted to examine whether participant age differed across the behavioural engagement pathways. No statistically significant differences were observed between the four pathways ($H(3) = 6.26$, $p = .100$), indicating that participant age was not associated with progression through the behavioural engagement pathways.

Gender

Participant gender was examined to explore whether patterns of behavioural engagement differed between male and female participants. One participant identified as non-binary and was included in the descriptive participant profile but excluded from inferential analysis because the sample size was insufficient to support meaningful statistical comparison. The distribution of behavioural engagement pathways by gender is presented in Table 7.

Behavioural engagement pathway	Men n (%)	Women n (%)
Registered Only	42 (60.9)	52 (31.5)
Active Only	12 (17.4)	36 (21.8)
Redeemer	10 (14.5)	54 (32.7)
Donor	5 (7.2)	23 (13.9)

Table 7 Behavioural engagement pathways by gender

Inspection of the distribution indicated clear differences in behavioural engagement between men and women. Men were substantially more likely to remain in the Registered Only pathway (60.9% compared with 31.5% of women), whereas women were more likely to progress to the Redeemer (32.7% vs. 14.5%) and Donor (13.9% vs. 7.2%) pathways. Differences between men and women were less pronounced within the Active Only pathway (17.4% and 21.8%, respectively).

A Pearson's chi-square test demonstrated a statistically significant association between gender and behavioural engagement pathway ($\chi^2(3) = 18.64$, $p < .001$). The strength of the association was small to moderate (Cramér's $V = 0.28$), indicating that behavioural engagement pathways differed by gender within this evaluation.

Economic Activity

Participants were grouped into three categories of economic activity (working, retired and not working) to explore whether employment circumstances were associated with progression through the behavioural engagement pathways. Categories with very small numbers were combined into a broader “Not working” group to support meaningful statistical comparison. The distribution of behavioural engagement pathways by economic activity is presented in Table 8.

Behavioural engagement pathway	Working n (%)	Retired n (%)	Not working n (%)
Registered Only	67 (46.5)	12 (30.8)	15 (29.4)
Active Only	18 (12.5)	12 (30.8)	17 (33.3)
Redeemer	39 (27.1)	11 (28.2)	15 (29.4)
Donor	20 (13.9)	4 (10.3)	4 (7.8)

Table 8 Behavioural engagement pathways by economic activity

Inspection of the distribution suggested differences in behavioural engagement according to economic activity. Participants who were working were more likely to remain in the Registered Only pathway than those who were retired or not working, whereas retired and not working participants were more frequently represented within the Active Only pathway. A statistically significant association was observed between economic activity and behavioural engagement pathway ($\chi^2(6) = 15.92$, $p = .014$). This finding was supported by a simulated Fisher's Exact Test ($p = .015$). The strength of the association was small (Cramér's $V = 0.18$), indicating that economic activity demonstrated a modest association with behavioural engagement pathways.

Living Arrangement

Living arrangement was examined to explore whether living alone was associated with progression through the behavioural engagement pathways. Participants were classified as either living alone or living with others. Individuals who selected “Prefer not to say” were excluded from the inferential analysis. The distribution of behavioural engagement pathways by living arrangement is presented in Table 9.

Behavioural engagement pathway	Live alone n (%)	Live with others n (%)
Registered Only	15 (39.5)	63 (38.9)
Active Only	8 (21.1)	29 (17.9)
Redeemer	11 (28.9)	50 (30.9)
Donor	4 (10.5)	20 (12.3)

Table 9 Behavioural engagement pathways by living arrangement

The distribution of behavioural engagement pathways was highly similar for participants living alone and those living with others. A Pearson's chi-square test indicated no statistically significant association between living arrangement and behavioural engagement pathway ($\chi^2(3) = 0.29$, $p = .962$). This finding was supported by a simulated Fisher's Exact Test ($p = .969$). The effect size was negligible (Cramér's $V = 0.04$), indicating that living arrangement was not associated with progression through the behavioural engagement pathways.

Community Belonging

Participants' perceived sense of belonging to their local community was examined to explore whether baseline community connectedness was associated with progression through the behavioural engagement pathways. Descriptive statistics are presented in Table 10.

Behavioural engagement pathway	n	Mean (SD)	Median (IQR)
Registered Only	95	6.51 (2.24)	7 (3)
Active Only	48	6.19 (2.46)	6.5 (3)
Redeemer	65	6.42 (2.16)	6 (3)
Donor	29	6.45 (2.25)	6 (3)

Table 10 Sense of community belonging by behavioural engagement pathway

Baseline perceptions of community belonging were similar across all four behavioural engagement pathways. Mean scores ranged from 6.19 to 6.51, with comparable medians and interquartile ranges observed across groups. A Kruskal-Wallis test indicated no statistically significant differences in community belonging between the behavioural engagement pathways ($H(3) = 0.40$, $p = .940$), suggesting that baseline perceptions of community belonging were not associated with subsequent patterns of engagement.

Loneliness

Participants' self-reported loneliness was examined to explore whether baseline feelings of loneliness were associated with progression through the behavioural engagement pathways. Descriptive statistics are presented in Table 11.

Behavioural engagement pathway	n	Mean (SD)	Median (IQR)
Registered Only	95	3.80 (2.79)	3 (5)
Active Only	48	4.52 (2.81)	5 (5)
Redeemer	65	4.43 (2.57)	5 (3)
Donor	29	3.38 (2.68)	3 (2)

Table 11 Loneliness scores by behavioural engagement pathway

Baseline loneliness scores showed modest variation across the behavioural engagement pathways. Participants within the Active Only and Redeemer pathways reported slightly higher mean loneliness scores than those in the Registered Only and Donor pathways; however, substantial overlap was observed between groups. A Kruskal-Wallis test indicated no statistically significant differences in loneliness across the behavioural engagement pathways ($H(3) = 5.64$, $p = .131$), suggesting that baseline loneliness was not associated with subsequent patterns of engagement.

Summary

Taken together, the participant characteristic analyses suggested that relatively few baseline characteristics were associated with progression through the behavioural engagement pathways (Table 12). Significant associations were observed for gender and economic activity, whereas age, living arrangement, baseline community belonging and baseline loneliness were not significantly associated with engagement pathway. These findings suggest that progression through the behavioural engagement pathways may be influenced more strongly by a limited number of participant characteristics than by broader demographic or psychosocial factors.

Participant characteristic	Statistical test	Test statistic	p-value	Effect size	Association
Age	Kruskal-Wallis	$H(3) = 6.26$	.100	—	None
Gender	Pearson's χ^2	$\chi^2(3) = 18.64$	<.001	$V = 0.28$	Moderate
Economic activity	Pearson's χ^2	$\chi^2(6) = 15.92$	.014	$V = 0.18$	Small
Living arrangement	Pearson's χ^2	$\chi^2(3) = 0.29$	.962	$V = 0.04$	Negligible
Community belonging	Kruskal-Wallis	$H(3) = 0.40$	.940	—	None
Loneliness	Kruskal-Wallis	$H(3) = 5.64$	.131	—	None

Table 12 Summary of associations between participant characteristics and behavioural engagement pathways

Multivariate Analysis

To determine which participant and implementation characteristics remained independently associated with progression through the behavioural engagement pathways, a multinomial logistic regression model was undertaken. This analysis examined whether participant demographics and recruitment approach remained associated with behavioural engagement after accounting for the influence of the other variables included in the model. Registered Only served as the reference behavioural engagement pathway, while Community Group recruitment was used as the reference recruitment approach. Results are presented in Table 13.

Following adjustment, relatively few participant characteristics remained independently associated with progression through the behavioural engagement pathways. Gender and recruitment approach demonstrated the strongest independent associations, while age was not independently associated with behavioural engagement. Economic activity was associated with early engagement but not with progression to reward redemption or community donation.

Participants who were not working had significantly greater odds of belonging to the Active Only pathway than participants who were working (OR = 3.47, 95% CI 1.28 to 9.45, p = .015). This suggests that participants who were not working were more than three times as likely to progress beyond registration and begin using the app, although they were no more likely than working participants to progress to reward redemption or community point donation.

Women demonstrated significantly greater odds of belonging to the Redeemer pathway than men (OR = 3.38, 95% CI 1.41 to 8.09, p = .006), indicating that, after adjustment for the other variables in the model, women were over three times more likely to progress to redeeming rewards. A similar pattern was observed for the Donor pathway (OR = 2.93, 95% CI 0.93 to 9.20), although this association did not reach conventional levels of statistical significance (p = .065).

Recruitment approach emerged as one of the strongest independent predictors of behavioural engagement. Compared with participants recruited through Community Groups, those recruited through Workplace initiatives had substantially lower odds of progressing beyond registration. Specifically, workplace recruits had 89% lower odds of belonging to the Redeemer pathway (OR = 0.11, 95% CI 0.03 to 0.36, p < .001) and 90% lower odds of belonging to the Donor pathway (OR = 0.10, 95% CI 0.02 to 0.54, p = .007). No statistically significant differences were observed between Community Groups, Outreach Events and Self Sign-up recruitment following adjustment for participant characteristics.

Engagement pathway	Independent predictor	OR (95% CI)	p	Interpretation
Active Only	Not working (vs Working)	3.47 (1.28 to 9.45)	0.015	More than three times more likely to progress beyond registration but not to reward redemption.
Redeemer	Woman (vs Man)	3.38 (1.41 to 8.09)	0.006	Women were over three times more likely to redeem rewards.
Redeemer	Workplace (vs Community Group)	0.11 (0.03 to 0.36)	<.001	Approximately 89% lower odds of progressing to reward redemption.
Donor	Woman (vs Man)	2.93 (0.93 to 9.20)	0.065	Trend towards greater odds of donating, although not statistically significant.
Donor	Workplace (vs Community Group)	0.10 (0.02 to 0.54)	0.007	Approximately 90% lower odds of progressing to community point donation.

Table 13 Independent predictors of progression through the behavioural engagement pathways

Note. Odds ratios (OR) greater than 1 indicate higher odds of belonging to the specified behavioural engagement pathway relative to the reference category, while odds ratios less than 1 indicate lower odds. Reference categories: Registered Only behavioural engagement pathway, Community Group recruitment, Man and Working. Confidence intervals (95% CI) that do not include 1 indicate statistically significant associations at the 5% level.

Summary

Overall, the multivariable analysis suggests that how participants entered the Civic Dollars programme was more strongly associated with sustained behavioural engagement than most participant demographic characteristics. While gender remained independently associated with progression to reward redemption, the findings indicate that implementation approach, particularly recruitment through existing community groups, may play an important role in supporting participants to move beyond initial registration towards sustained engagement with the programme.

Graphic Harvester Grainne O'Neill documents the journey of The Glen Women's Group and their experience with Civic Dollars as researcher Dr Grainne McAnee facilitates a focus group discussion

Changes in participant reported outcomes

Thirty-six participants completed both the baseline and end-of-programme surveys and were included in the paired analysis. Significant improvements were observed across several participant-reported outcomes (Table 14).

The largest improvement was observed in self-reported physical activity, which increased from a mean of 5.67 at baseline to 7.06 at follow-up ($p < .001$). Participants also reported significantly greater feelings of community belonging (5.61 to 6.56, $p = .002$), more frequent positive emotions (6.97 to 7.81, $p = .010$) and greater happiness (6.89 to 7.75, $p = .048$). Effect sizes indicated moderate improvements for community belonging ($d = 0.54$) and positive emotions ($d = 0.46$).

Positive trends were also observed for general health, mental health, life satisfaction, perceived knowledge of healthy nutritional choices and feelings that life is worthwhile, although these did not reach levels of statistical significance. No meaningful changes were observed for loneliness, friendships, nutrition, negative emotions or health-related limitations. Anxiety scores decreased between baseline and follow-up, although this change was not statistically significant asks about the day prior to filling in the survey so is highly dependent on what kind of day that was for our participant.

Participants of Civic Dollars opted for a walking tour of a local cemetery, one of our Civic Dollars earn zones in exchange for their civic dollars

Outcome	Baseline Mean	Follow-up Mean	Mean Difference	Test	p	Cohen's d
General health	6.83	7.19	0.36	Paired t	0.13	0.26
Mental health	7.08	7.47	0.39	Wilcoxon	0.102	N/A
Limited by health problem	3.25	3.11	-0.14	Wilcoxon	0.915	N/A
Physical activity	5.67	7.06	1.39	Wilcoxon	**<.001**	N/A
Nutrition	6.06	6.36	0.31	Wilcoxon	0.183	N/A
Knowledge of healthy choices	7.06	7.31	0.25	Wilcoxon	0.074	N/A
Friendships	8	7.97	-0.03	Wilcoxon	0.874	N/A
Loneliness	3.75	3.75	0	Wilcoxon	1	N/A
Community belonging	5.61	6.56	0.94	Paired t	**0.002**	0.54
Positive emotions	6.97	7.81	0.83	Paired t	**0.01**	0.46
Negative emotions	4.19	4.25	0.06	Paired t	0.901	0.02
Life satisfaction	6.78	7.39	0.61	Wilcoxon	**0.05**	N/A
Worthwhile life	7.11	7.6	0.49	Wilcoxon	0.068	N/A
Happiness	6.89	7.75	0.86	Wilcoxon	**0.048**	N/A
Anxiety	3.56	2.81	-0.75	Paired t	0.206	-0.21

Table 14 Changes in participant-reported outcomes between baseline and follow-up (n = 36)

Note. Statistically significant results (at the 0.05 level) are shown in bold. Positive mean differences indicate improvement for all outcomes except Limited by health problem, Loneliness, Negative emotions and Anxiety, where lower scores represent more favourable outcomes. Statistical tests were selected according to the distribution of change scores. Cohen's d is reported where paired t-tests were undertaken.

Summary

Overall, the paired analyses suggest that participants experienced improvements primarily in domains directly related to the aims of the Civic Dollars programme, particularly physical activity, community connectedness and positive wellbeing.

Participant evaluation of Civic Dollars

The objective app data demonstrate how participants engaged with Civic Dollars, while the matched pre-post analyses provide evidence of changes in participant-reported outcomes. Equally important, however, is understanding how participants themselves experienced the programme. The end of evaluation survey therefore explored participants' perceptions of Civic Dollars, including its impact on their health and wellbeing, the changes they attributed to participation, and their overall experience of the programme. These findings provide an important participant perspective and complement the objective evidence presented throughout the evaluation.

Participant Perceptions of Programme Impact

Participants reported overwhelmingly positive perceptions of the impact of Civic Dollars across all measured outcomes (Table 15), illustrated in Figure 12). Between 57.3% and 78.7% of participants agreed or strongly agreed that the programme had positively influenced aspects of their health, wellbeing and everyday behaviour, while fewer than 5% disagreed with any statement.

The highest level of agreement was observed for the statement that, with Civic Dollars had had a positive impact on participants' lives 78.7% agreeing or strongly agreeing. Participants also reported improvements in positive wellbeing (76.0%), noticing their surroundings more (73.3%), motivation to look after their health (73.3%) and the development of healthier habits (70.7%).

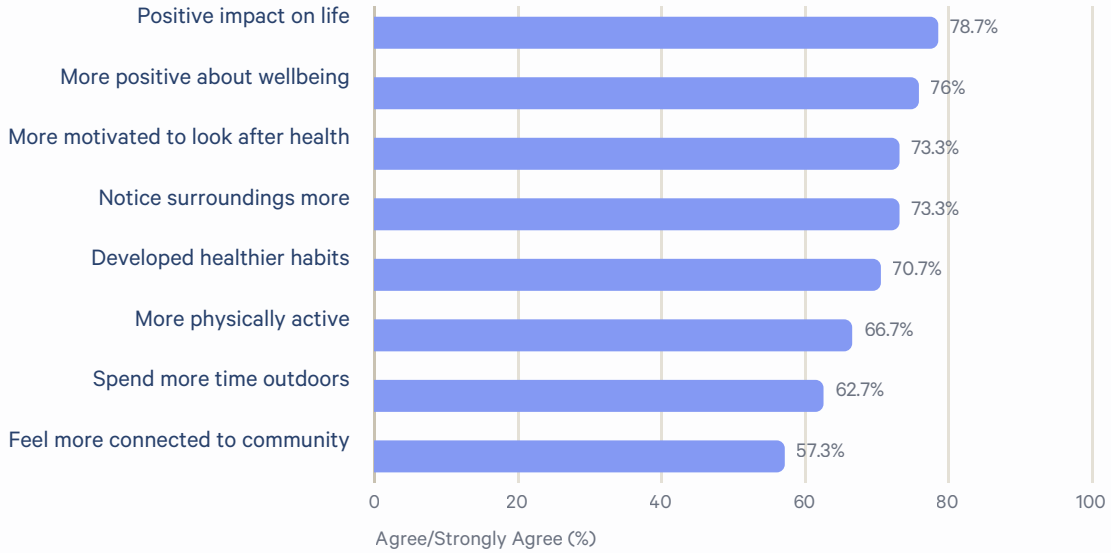


Figure 12 Percentage of participants agreeing that Civic Dollars had a positive impact

Two-thirds of participants (66.7%) agreed that they had become more physically active through the programme, while 62.7% reported spending more time outdoors. More than half (57.3%) also reported feeling more connected to their local community. Across all outcomes, disagreement was uncommon, ranging from only 2.7% to 4.0% of respondents.

Outcome	N	Strongly Agree (n)	Agree (n)	Agree / Strongly Agree (%)	The Same (%)	Disagree / Strongly Disagree (%)
Spend more time outdoors	74	22	25	**62.7**	32.4	4
More physically active	74	19	31	**66.7**	29.7	2.7
Notice surroundings more	74	19	36	**73.3**	23	2.7
Feel more connected to community	74	14	29	**57.3**	37.8	4
More motivated to look after health	74	22	33	**73.3**	23	2.7
More positive about wellbeing	74	20	37	**76**	20.3	2.7
Developed healthier habits	74	16	37	**70.7**	25.7	2.7
Positive impact on life	74	18	41	**78.7**	16.2	4

Table 15 Participant perceptions of the impact of Civic Dollars

Self-reported health, wellbeing and behavioural changes

While the previous section explored participants' perceptions of the overall impact of Civic Dollars, participants were also asked whether they had experienced specific behavioural and lifestyle changes since taking part in the programme. These findings provide additional insight into the types of changes participants attributed to their involvement and complement both the objective app data and the matched pre-post outcome analyses.

Participants reported a range of positive behavioural, wellbeing and lifestyle changes following participation in Civic Dollars (Figure 13, Table 16). The most reported changes were spending more time outdoors (81.1%) and walking more than previously (79.7%).

Participants also frequently reported improvements in mood (73.0%), discovering new places locally (69.9%) and meeting new people (69.4%). Around two-thirds of participants reported improvements in stamina (64.4%), fitness (63.9%), feeling less isolated (63.0%) and confidence (62.5%), while 60.8% reported reduced stress levels. Improvements in sleep were reported by just over half of participants (52.7%).

Fewer participants reported changes in weight (28.8%) or clothing fit (31.9%), while responses regarding improvements in diabetic blood results were characterised by a high level of uncertainty, reflecting that many participants had not undergone repeat blood testing during the evaluation period.

Outcome	N	Yes n (%)	Not sure n (%)	No n (%)
Walk more	74	59 (**79.7%**)	6 (8.1%)	9 (12.2%)
More time outdoors	74	60 (**81.1%**)	4 (5.4%)	10 (13.5%)
Lost weight	73	21 (**28.8%**)	30 (41.1%)	22 (30.1%)
Fitness improved	72	46 (**63.9%**)	18 (25.0%)	8 (11.1%)
Stamina improved	73	47 (**64.4%**)	20 (27.4%)	6 (8.2%)
Sleep better	74	39 (**52.7%**)	16 (21.6%)	19 (25.7%)
Mood improved	74	54 (**73.0%**)	15 (20.3%)	5 (6.8%)
Reduced stress	74	45 (**60.8%**)	20 (27.0%)	9 (12.2%)
Less isolated	73	46 (**63.0%**)	12 (16.4%)	15 (20.5%)
Discovered new places	73	51 (**69.9%**)	9 (12.3%)	13 (17.8%)
Can do activities previously found difficult	72	31 (**43.1%**)	21 (29.2%)	20 (27.8%)
Can wear clothes previously too tight	72	23 (**31.9%**)	22 (30.6%)	27 (37.5%)
More confident	72	45 (**62.5%**)	13 (18.1%)	14 (19.4%)
Met new people	72	50 (**69.4%**)	6 (8.3%)	16 (22.2%)
Diabetic bloods improved*	67	11 (**16.4%**)	37 (55.2%)	19 (28.4%)

Table 16 Self-reported health, wellbeing and behavioural changes following participation in Civic Dollars

GP additional measures subgroup

Four participants completed matched pre- and post-intervention PHQ-9 and GAD-7 questionnaires through the GP groups. Mean PHQ-9 scores decreased slightly from 6.00 at baseline to 5.75 following participation, while mean GAD-7 scores decreased from 6.25 to 5.75. At an individual level, two participants demonstrated reductions in both depression and anxiety scores, one participant's scores remained unchanged, and one participant reported a small increase in symptoms. Given the very small number of matched questionnaires, these findings should be interpreted as descriptive only and are not sufficient to draw conclusions regarding programme effectiveness. The low number of matched outcome measures reflects the practical challenges of collecting paired clinical outcome data within community-based preventive programmes.

Summary

These results suggest that participants perceived benefits extending beyond increased physical activity alone. While spending more time outdoors and walking were the most frequently reported changes, participants also described improvements in mood, confidence, social connection and the discovery of new local places. In contrast, outcomes such as weight loss and improvements in diabetic blood results were reported less frequently, which is unsurprising given that these outcomes often require longer periods to emerge and are influenced by multiple factors beyond physical activity alone. Overall, the pattern of findings is consistent with a community-based preventative intervention that supports gradual improvements in health behaviours, wellbeing and social participation rather than producing immediate clinical changes.

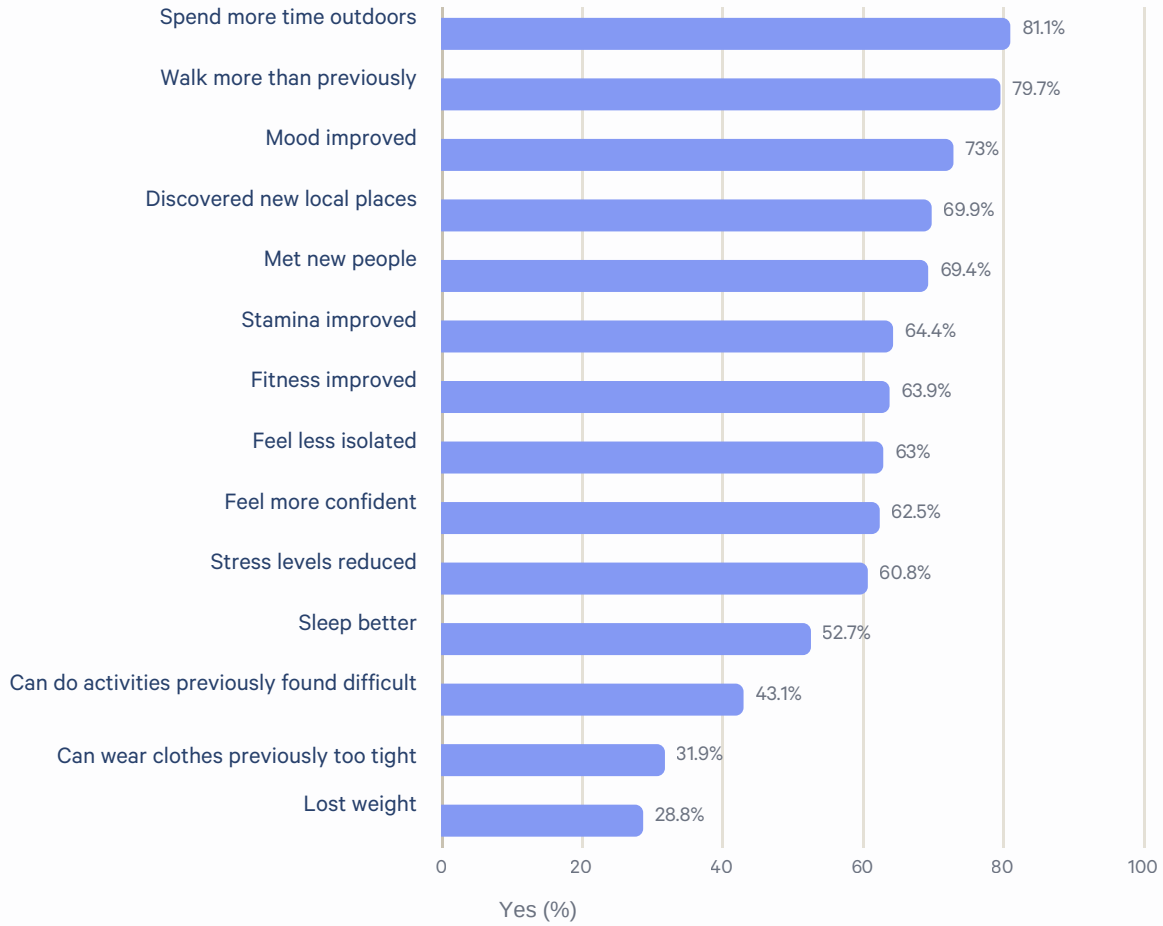


Figure 13 Percentage of participants reporting health, wellbeing and behavioural changes following participation in Civic Dollars

Evaluation of programme features

Participants were also asked to rate the usefulness of the main features of Civic Dollars.

These findings provide insight into which elements of the programme participants valued most and help identify the components that may have contributed to sustained engagement. Participants rated all five programme features positively (Table 17, Figure 14). Rewards received the highest rating, with 85.1% of participants describing them as very useful, closely followed by earning Civic Dollars itself (82.4%). Around seven in ten participants also rated discovering local places (71.6%) and donations to community organisations (70.3%) as very useful. Although feeling like part of the community received the lowest rating, it was still considered very useful by over three-fifths of participants (62.2%). Neutral responses were more common for the community-focused features, while negative ratings were uncommon across all programme components (2.7% to 4.1%).

Feature	N	Very useful n (%)	Neutral n (%)	Not useful n (%)
Earning Civic Dollars	74	61 (82.4%)	11 (14.9%)	2 (2.7%)
Rewards	74	63 (85.1%)	9 (12.2%)	2 (2.7%)
Donations to community organisations	74	52 (70.3%)	19 (25.7%)	3 (4.1%)
Discovering local places	74	53 (71.6%)	18 (24.3%)	3 (4.1%)
Feeling like part of my community	74	46 (62.2%)	25 (33.8%)	3 (4.1%)

Table 17 Participant ratings of Civic Dollars programme features

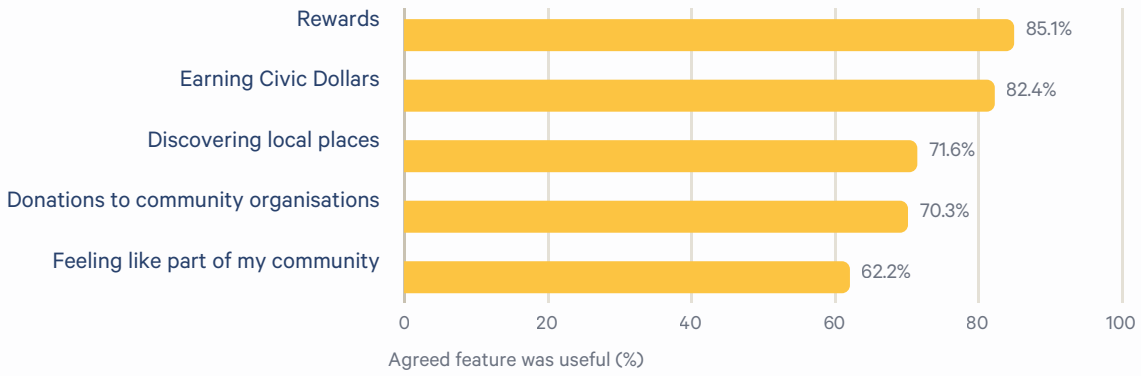


Figure 14 Percentage of participants rating Civic Dollars programme features as very useful

Future Engagement and Programme Sustainability

Participants were asked about their willingness to continue using Civic Dollars, whether they would recommend the programme to others, and the extent to which they felt it had supported healthier choices. These questions provide an indication of participant acceptability, perceived value and the potential sustainability of the programme beyond the evaluation period.

Participants reported a high willingness to recommend Civic Dollars to others (Figure 15). The median recommendation score was 10 out of 10, with a mean score of 9.11. Recommendation ratings were further summarised using the Net Promoter Score (NPS), which groups participants according to their likelihood of recommending a service. The majority of participants were classified as highly likely to recommend Civic Dollars (scores of 9-10), resulting in an overall NPS of 69. This indicates a high level of participant advocacy and confidence in recommending the programme to others.

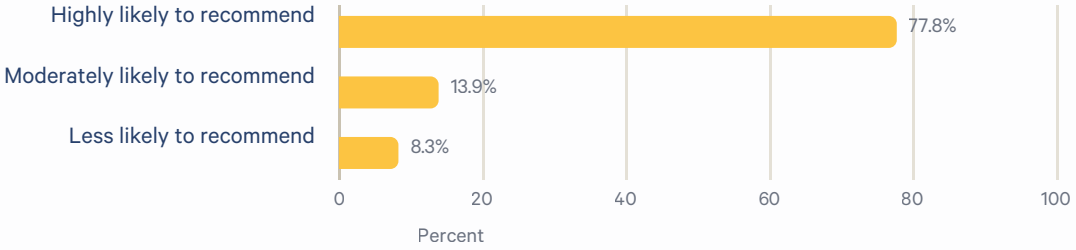


Figure 15 Participant likelihood of recommending Civic Dollars to friends and family

Participants expressed strong intentions to continue using Civic Dollars as shown in Table 18. Among those who responded, 83.6% said they would definitely continue using the programme and a further 12.3% said they probably would, giving a combined continuation intention of 95.9%. Participants also appeared to place substantial value on the programme's continuation: 75.3% reported that they would be very or extremely disappointed if Civic Dollars ended, rising to 91.8% when those who would be moderately disappointed were included. In relation to health behaviour, 67.1% felt that Civic Dollars had helped them make healthier choices quite a lot or a great deal, while 93.1% reported at least some positive influence.

Question	Response	n (%)
Would continue using Civic Dollars	Definitely yes	61 (83.6%)
	Maybe	3 (4.1%)
	Probably yes	9 (12.3%)
Disappointment if Civic Dollars ended	Extremely	30 (41.1%)
	Moderately	12 (16.4%)
	Not at all	2 (2.7%)
	Slightly	4 (5.5%)
	Very	25 (34.2%)
Helped participants make healthier choices	A great deal	22 (30.6%)
	A little	18 (25%)
	Not at all	5 (6.9%)
	Quite a lot	27 (37.5%)

Table 18 Future engagement, programme continuation and perceived support for healthier choices

Summary

Taken together, the findings indicate strong participant acceptability, a high willingness to recommend Civic Dollars, and substantial interest in continued engagement. However, these quantitative findings provide only a partial account of participants' experiences. To explore how Civic Dollars influenced motivation, behaviour and community connection, and to better understand the practical factors that supported or hindered engagement, the next section integrates open-ended survey responses with interview and focus group data.

Qualitative Findings

Participants' open-ended survey comments and interview narratives provided complementary qualitative evidence and demonstrated a high degree of convergence. While the survey responses captured concise reflections from a broader group of participants, the interviews and focus groups provided richer accounts of participants' experiences and the mechanisms through which change appeared to occur.

Synthesising evidence across both qualitative datasets identified four interconnected domains of programme impact and implementation:

- healthier lifestyles;
- rewards and motivation;
- community connection and;
- opportunities to strengthen programme delivery.

Together, these complementary sources strengthened the credibility of the qualitative findings through triangulation, with the survey comments reinforcing, refining and, where appropriate, extending the explanations developed through the in-depth interviews and focus groups.

> “ Previous to this people would get a letter, a review and some lifestyle advice ”

WHSCT GP social worker describes the usual process for people who have been identified as at risk of diabetes

Domain 1: Healthier lifestyles

Evidence

Participants described a range of positive changes in their physical activity, daily routines and wider health behaviours. Walking was the most commonly discussed form of activity, with participants reporting that Civic Dollars encouraged them to begin walking again, walk more regularly or extend the distance and duration of walks they were already taking. For some, this represented a return to an activity they had previously enjoyed.

> “I’m back into my walking again and I absolutely love it.” INT01

Participants often described Civic Dollars as providing a small but useful source of encouragement. Rather than creating major change on its own, the programme appeared to give some people an additional reason to get outside, remain active or continue walking for longer.

> “It’s like a little motivation to walk and to walk a little bit further.” INT11

The changes described were not always dramatic. Participants frequently spoke about gradual improvements that became part of their everyday routines. One participant emphasised the importance of approaching behaviour change through manageable steps.

> “Small ones always. Smaller changes, not big changes.” INT07

For some participants, engagement with organised activities helped build the confidence and familiarity needed to become active independently. Having initially walked as part of a supported group, one participant explained,

> “Now I know about it, it’s easier to go out on my own.” INT11

This suggests that the benefits of participation could extend beyond attendance at individual activities. Supported opportunities allowed participants to become familiar with walking routes, build confidence and develop a sense that physical activity was something they could continue independently.

In some cases, increased activity formed part of a broader shift in attitudes towards health. Participants described moments when a health concern, personal realisation or growing readiness for change prompted them to reassess their routines. One participant captured this change simply,

> “Something clicked.”
> INT05

Within the wider account, this moment was associated with increased walking and other positive lifestyle changes. This illustrates that Civic Dollars did not operate in isolation. It often became useful when participants were already beginning to think differently about their health or were ready to act on an existing intention to change.

Survey responses supported the interview findings, with participants reporting improvements in physical activity, fitness, mobility and motivation. Comments described walking more frequently, getting out of the house, spending more time outdoors and becoming involved in activities that they might not otherwise have tried.

Together, the interview and survey evidence indicates that Civic Dollars supported healthier lifestyles primarily by encouraging manageable increases in activity and helping participants translate intentions into action.

What this tells us

The findings suggest that healthier behaviour developed through the interaction of motivation, accessible opportunities and growing confidence rather than through rewards alone.

From a COM-B perspective, Civic Dollars enhanced physical and social opportunity by linking participants with accessible walking routes, organised groups and community activities. It also supported reflective motivation by giving participants a clear reason to begin or continue being active. As activity became more familiar and participants experienced enjoyment, achievement or improved confidence, motivation appeared to become increasingly internalised.

The findings also reflect the Transtheoretical Model of Behaviour Change. Participants entered Civic Dollars at different stages of readiness. Some were already active and used the programme to strengthen an existing routine, while others were considering change or taking their first steps towards becoming more active. The programme appeared particularly useful in helping participants move from intention into action by offering an immediate, achievable opportunity to participate.

The statement that “something clicked” also highlights the importance of context and personal readiness. Civic Dollars did not produce identical responses across all users. Its resources were more likely to generate change when they connected with an individual’s circumstances, motivations and readiness to act. For one person, the relevant mechanism may have been encouragement; for another, it was the security of a group, the pleasure of walking, a health concern or a growing sense of competence.

Viewed through a realist lens, the programme therefore worked by providing accessible opportunities and modest encouragement within contexts where participants felt able and ready to respond. These mechanisms supported increased activity, greater confidence and, in some cases, the development of independent and sustainable routines.

Overall, Civic Dollars appeared to support healthier lifestyles not by demanding major transformation, but by making small positive actions easier to begin, repeat and gradually incorporate into everyday life.

Domain 2: Motivation and sustained engagement

Evidence

Participants consistently described Civic Dollars as providing an initial incentive to become more active. For many, the opportunity to earn rewards acted as an additional prompt to take part in activities, walk further or become involved in community events. Participants spoke openly about the appeal of receiving vouchers and recognised that these tangible rewards influenced their early engagement. One participant explained simply:

> “I just love getting free stuff.” INT06

Others described how the rewards encouraged them to increase the amount of activity they undertook rather than simply rewarding behaviour that would have happened anyway.

> “It kind of makes me stay a bit longer.” INT06

Similarly, another participant reflected:

> “It would inspire you to walk longer to get this thing that you really want for yourself.”
>
> INT08

These accounts suggest that the rewards acted as behavioural prompts, encouraging participants to extend the duration or frequency of activities during the early stages of engagement.

However, participants also described how their motivation frequently evolved over time. While incentives often prompted initial participation, they became less important as healthy routines developed and participants experienced the personal benefits of being active. One participant summarised this progression particularly well:

> “It’s definitely the incentive, but it’s like anything, habit.” INT09

This brief statement captures a transition reported by several participants. Civic Dollars provided an initial reason to engage, but repeated participation gradually became incorporated into everyday life. For some, activities continued because they were enjoyable, beneficial or had become part of their normal routine rather than because rewards remained the primary focus.

Participants also described motivations that extended beyond personal gain. For some, donating Civic Dollars to local charities created an additional sense of meaning and purpose.

> “It was always about giving back to other people.” INT02

Rather than viewing Civic Dollars solely as a personal reward scheme, participants described satisfaction from contributing to organisations within their local community. This suggests that opportunities to donate points may have broadened the motivational appeal of the programme by connecting individual activity with wider community benefit.

Survey responses reflected these findings, with participants frequently describing Civic Dollars as encouraging them to get out more, become more active and try new activities. Although rewards were often mentioned positively, participants more commonly reflected on increased enjoyment, improved wellbeing and the establishment of healthier routines than on the rewards themselves. Together, these findings suggest that while incentives played an important role in initiating engagement, longer-term participation appeared to become increasingly driven by the personal value participants attached to the activities themselves.

What this tells us

The findings suggest that Civic Dollars supported behaviour change by combining immediate incentives with opportunities for participants to experience the intrinsic benefits of being active. Rather than functioning as an end in themselves, rewards appeared to provide an accessible starting point from which more sustainable motivations could develop.

From a COM-B perspective, rewards strengthened reflective motivation by providing participants with a clear and immediate reason to engage in healthy behaviours. As participants accumulated positive experiences through walking, attending activities and connecting with others, these experiences appeared to reinforce continued participation beyond the initial incentive.

The TTM also provides a useful explanation for these findings. External rewards appeared particularly valuable during the early stages of behaviour change, helping participants move from contemplation and preparation into action. As routines became established, participants increasingly described maintaining these behaviours because they had become habitual and personally rewarding.

Self-Determination Theory offers perhaps the strongest explanatory lens for this domain. While many participants initially engaged for external reasons, their accounts suggest that motivation often became progressively internalised. Participants described enjoying activities, feeling more capable of maintaining healthy routines and experiencing greater connection with their communities. These experiences supported the psychological needs for competence, autonomy and relatedness, allowing motivation to shift from being externally prompted towards becoming more personally meaningful.

Viewed through a realist lens, Civic Dollars appeared to work by providing incentives that interacted with participants' existing motivations and circumstances. For individuals who were ready to make changes, rewards acted as an initial catalyst. As participants experienced the physical, psychological and social benefits of participation, these positive experiences became mechanisms that sustained engagement long after the novelty of the rewards had diminished.

Overall, the findings suggest that the programme’s greatest strength was not the value of the rewards themselves, but their ability to encourage repeated participation until healthier behaviours became increasingly self-sustaining.

Domain 3: Social connection, belonging and community participation

Evidence

Participants described social connection as an important benefit of their involvement in Civic Dollars and the community activities through which many encountered the programme. Taking part provided opportunities to leave the house, meet other people and become involved in local groups and activities. For some participants, this addressed a clear gap in their lives. One participant, reflecting on attending sessions at the Gasyard, explained:

> “I love the Gasyard sessions… this is what I’m missing.” INT13

This account suggests that participation offered more than an opportunity to be physically active. It provided a space in which the participant could experience companionship, shared activity and a renewed sense of involvement with others.

Participants frequently described the value of simply getting out and being among people.

> “Meeting people, getting out and meeting people.” FG01

Although expressed simply, this captures an important outcome for participants who may otherwise have experienced isolation, reduced confidence or limited opportunities for social participation. The activities connected with Civic Dollars created a reason to leave the house and an accessible setting in which contact with others could develop naturally.

Participants also valued hearing about the experiences of others and spending time with people they might not otherwise have met.

> “Being involved with those different people. Hearing other people’s stories.” INT13

This suggests that connection was not limited to casual social contact. Shared activities created opportunities for recognition, empathy and the development of relationships across different experiences and backgrounds.

The quality of the environment appeared central to whether these connections could develop. Participants emphasised the welcoming and non-judgemental nature of the groups:

> “There’s no judgement.”
>
> FG01

This sense of psychological safety appeared particularly important for people who lacked confidence, were experiencing health difficulties or felt uncertain about joining new activities. Participants described environments where they could attend without pressure, take part at their own level and feel accepted by others. As participants returned to activities, brief encounters could develop into more meaningful relationships. One participant reflected:

> “I met some good people at it.”
>
> INT12

These relationships appeared to reinforce continued attendance. Participants were not only returning for the activity or the Civic Dollars they could earn, but also because they expected to see familiar people and felt increasingly comfortable within the group.

For some, engagement also fostered a stronger sense of contribution and collective responsibility. One participant described the relationship between individuals and their local area in the following terms,

> “The community is as good as the people in it.” INT14

This reflects a wider understanding of participation in which personal activity, community involvement and contribution to others were interconnected. The option to donate Civic Dollars to local organisations also provided a means through which individual activity could generate a visible community benefit.

Survey comments supported the interview findings. Participants described getting out more, meeting new people, joining groups, trying unfamiliar activities and feeling more connected to their local community. These accounts indicate that the programme’s social value did not arise from the app alone. It emerged through the activities, organisations and relationships that surrounded its use.

What this tells us

The findings suggest that social connection was both an outcome of participation and a mechanism supporting continued engagement.

From a COM-B perspective, community groups and organised activities created social opportunity. They gave participants somewhere to go, people with whom to participate and a structure that made healthy activity more accessible. For some, joining a group reduced the practical and emotional burden of beginning an activity alone.

Participation also appeared to strengthen psychological capability. Supportive group environments helped participants become familiar with activities, develop confidence and learn that they could take part without judgement. Over time, increased confidence could enable participants to engage more independently or consider other community opportunities.

Self-Determination Theory provides a particularly valuable lens for understanding this domain. The welcoming relationships described by participants supported the psychological need for relatedness, including the need to feel connected, accepted and valued by others. Participants also experienced increasing competence as they became more comfortable within activities and, in some cases, greater autonomy as they developed the confidence to make their own choices about participation.

These social experiences may therefore help explain why some participants sustained their involvement beyond the initial appeal of rewards. Enjoyment, friendship, belonging and the expectation of seeing familiar people gave activities personal meaning. The motivation to continue was embedded within relationships rather than located solely within the individual.

Viewed through a realist lens, Civic Dollars appeared most likely to support social connection when it was embedded within trusted community organisations offering accessible, inclusive and non-judgemental activities. In these contexts, organised opportunities activated mechanisms of safety, confidence, mutual recognition and belonging. These mechanisms contributed to increased participation, stronger social connections and continued engagement.

The findings also help explain the stronger progression observed among participants recruited through community groups. Groups did not simply provide a route through which people heard about Civic Dollars. They offered encouragement, practical support and an immediate social setting in which the programme could be used. By contrast, receiving information about the app without an accessible opportunity to participate may have been insufficient for some individuals to progress beyond registration.

Overall, Civic Dollars appeared to be most effective when the digital platform was supported by a living community infrastructure. The app provided an incentive and a means of recording activity, but trusted organisations and relationships created the conditions in which participation could begin, feel safe and become meaningful.

Domain 4: Strengthening programme reach, accessibility and delivery

Evidence

Alongside positive experiences, participants identified several factors that made Civic Dollars more difficult to begin, use consistently or integrate into everyday life. These included competing life demands, limited awareness of available activities, technical difficulties with the app and uncertainty about how or where Civic Dollars could be earned and redeemed.

Importantly, non-use or reduced engagement did not necessarily indicate a lack of interest in becoming more active. For some participants, personal circumstances simply limited their capacity to prioritise the programme,

> “Life just got in the way.”
>
> INT03

This account highlights the everyday pressures that can interrupt engagement, including work, caring responsibilities, health difficulties and changes in routine. Participants could value the idea of Civic Dollars while still finding it difficult to translate registration or initial interest into sustained participation.

Some participants also appeared to require more support after registration. Receiving information about the app was not always sufficient to enable people to identify suitable activities, understand how the programme worked or establish a routine of use. In contrast, participants introduced through organised groups often had an immediate activity, trusted support and practical guidance. One participant reflected,

> “At the minute, it’s definitely the organised groups.” INT11

This suggests that groups performed an important implementation role. They did more than promote Civic Dollars. They helped participants download or understand the app, provided an accessible opportunity to earn points and created a social expectation that encouraged continued participation.

Participants also reported technical difficulties that could interrupt or undermine their experience. These included problems with GPS tracking, activity zones and the app failing to register time spent being active. Although these issues may appear minor, they were particularly significant within a reward-based programme. If participants felt that their effort had not been recognised or recorded, the connection between activity and reward became less reliable. Repeated technical difficulties could therefore weaken trust in the app and reduce motivation to continue using it.

The use of a digital platform created a further tension. While the app provided a convenient way to record activity and manage rewards, it operated through devices that also competed for users' attention.

> "Apps are good, but it's too easy to get distracted." INT14

This suggests that digital delivery may support engagement for some users while creating barriers for others. Participants with limited digital confidence, difficulty remembering to open the app or concerns about phone use may require alternative prompts or additional support.

Participants also offered suggestions about the rewards available. While vouchers and free activities were valued, some participants felt that rewards could be aligned more directly with the programme's health and wellbeing objectives:

> "A free health check would be a nice reward." INT07

This suggestion illustrates that rewards were not valued only for their monetary benefit. Participants were also interested in opportunities that could support prevention, health awareness and continued wellbeing.

Survey responses reflected many of these concerns. Participants requested clearer information about how Civic Dollars worked, more activities and earning zones, a wider range of rewards, greater promotion and improvements to the reliability and usability of the app.

Together, the findings indicate that the programme's ability to generate outcomes depended on the strength of the entire participation pathway. Registration alone did not ensure engagement. Participants needed clear information, accessible opportunities, confidence using the technology and ongoing prompts or support.

What this tells us

The findings suggest that the principal implementation challenge was not simply persuading people that Civic Dollars was worthwhile. It was ensuring that participants could move successfully from awareness and registration into meaningful activity.

From a COM-B perspective, barriers arose across all three components of behaviour. Some participants lacked psychological capability, including a clear understanding of how to use the app or where to earn and redeem Civic Dollars. Others faced limited physical or social opportunity, with few suitable activities, competing demands or no group structure to support participation. Motivation could also be weakened when technical problems disrupted the expected relationship between effort and reward.

The TTM helps explain why a single recruitment approach was unlikely to work equally well for everyone. Registering for Civic Dollars may have indicated initial interest, but participants were at different stages of readiness. Those in the preparation or early action stages may have required a clear first activity, personal encouragement or practical support. Without this bridge, registration could remain an isolated action rather than becoming the beginning of a new routine.

Self-Determination Theory also helps illuminate the impact of delivery barriers. Technical failures may undermine competence by leaving users feeling unable to operate the programme successfully. Limited activity choice may restrict autonomy, while recruitment that is disconnected from community groups may offer fewer opportunities for relatedness. Strengthening these conditions could make participation feel easier, more personally relevant and more sustainable.

Viewed through a realist lens, registration did not operate as an active ingredient by itself. Outcomes were more likely when participants encountered Civic Dollars in contexts that offered trusted support, clear guidance and an immediate opportunity to take part. These conditions activated mechanisms of understanding, confidence, accountability and belonging. Where these supports were absent, competing life demands, uncertainty or technical frustration could prevent the programme's resources from generating meaningful engagement.

The qualitative findings reinforce the quantitative evidence showing stronger progression among participants recruited through community groups and a high proportion of registered-only users among those recruited through workplace routes. This does not mean that workplace recruitment was inherently ineffective. Rather, it suggests that providing information or facilitating sign-up without an accompanying activity or follow-up pathway may be insufficient to support progression.

Overall, strengthening Civic Dollars will require attention to the full user journey rather than registration numbers alone. Clear onboarding, reliable technology, visible and accessible opportunities, responsive support and stronger links with trusted community organisations could help more participants progress from initial interest into sustained participation.

SECTION 08

Programme Theory

The findings from this mixed-methods evaluation were synthesised to develop a programme theory explaining how Civic Dollars appears to support behaviour change and community participation shown in Figure 16. Informed by principles of realist evaluation, the programme theory proposes that Civic Dollars is most effective when programme resources, including incentives, opportunities for participation and community-based activities, are delivered within supportive contexts such as trusted organisations, accessible local opportunities, psychologically safe environments and clear programme support.

Within these contexts, programme resources appear to activate a series of mechanisms including initial motivation, growing confidence and competence, enjoyment, social connection, belonging and a sense of purpose. Together, these mechanisms encourage progression through the engagement pathway from registration to active participation, reward redemption and, for some participants, charitable donation. Through repeated engagement, these processes contribute to healthier lifestyles, improved wellbeing, stronger social connections, increased community participation and more sustainable behaviour change over time.

The programme theory provides an explanatory framework that integrates the quantitative and qualitative findings presented in this report. It illustrates not only what outcomes were observed, but also how and under what circumstances Civic Dollars appeared to generate these outcomes, providing a foundation for the discussion.

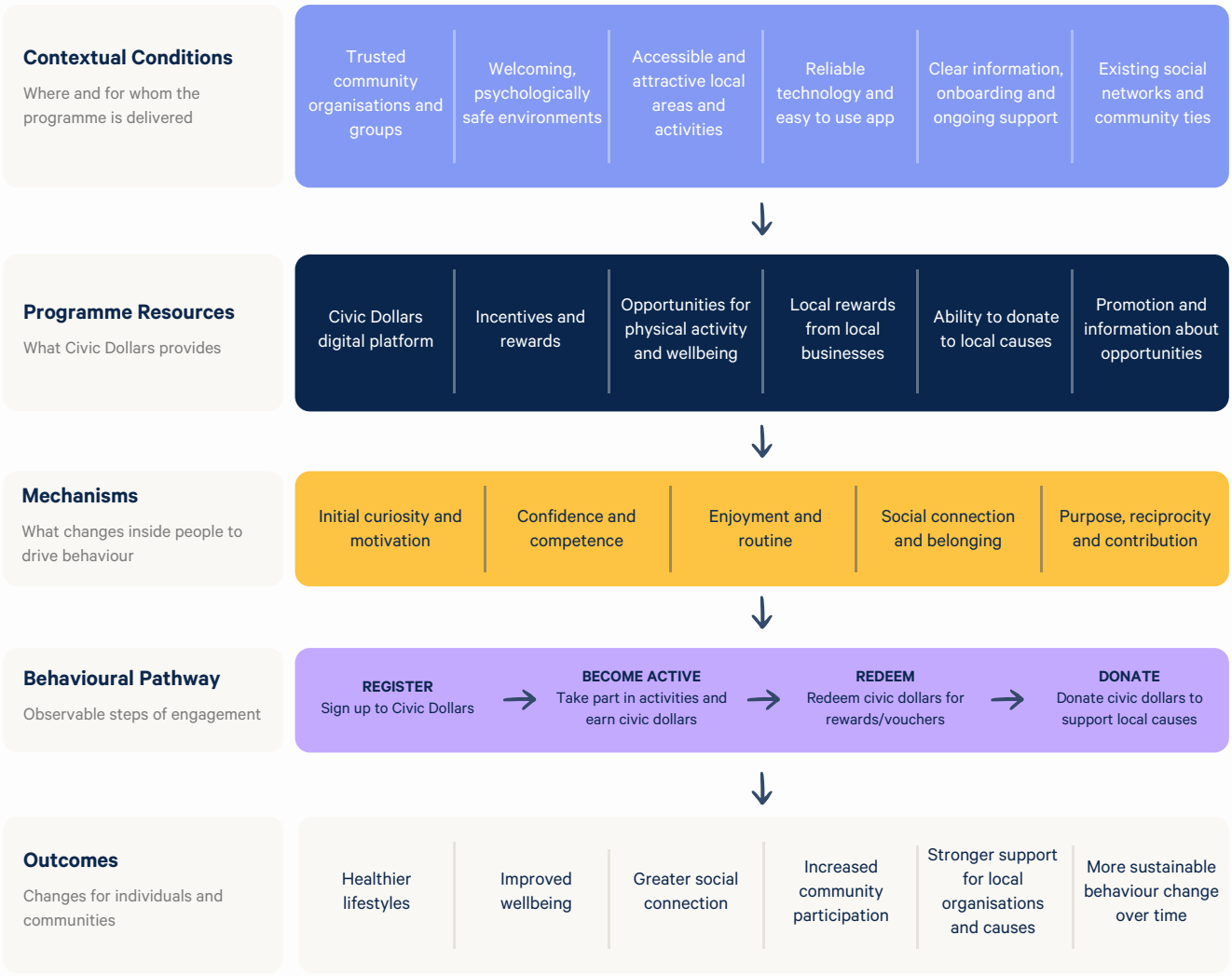


Figure 16 Programme theory explaining the mechanisms of behaviour change within Civic Dollars

SECTION 09

Community Legacy

While much of the evaluation focused on individual engagement with the Civic Dollars platform, evidence from community organisations and qualitative interviews suggests that the programme generated a broader community legacy. Across five community organisations, evaluation feedback consistently described benefits that extended beyond the funded intervention period, with participants continuing to engage in physical activity, community groups and social activities after programmes had concluded. Organisations reported ongoing swimming participation, continued walking groups, regular golf sessions, increased attendance at community activities and greater confidence to participate in future wellbeing initiatives.

These organisational observations closely reflected participants' own accounts during qualitative interviews. Interviewees frequently described Civic Dollars as providing the confidence, motivation and social connections needed to establish new routines and become more involved in their local communities. Rather than viewing the funded activities as isolated events, many participants described them as the starting point for longer-term changes in behaviour, relationships and community participation.

The convergence of organisational evaluations and participant interviews provides evidence that the programme's impact extended beyond immediate participation. Organisations consistently reported improvements in physical activity, mental wellbeing, confidence and social connectedness, while participants themselves described developing new habits, stronger community connections and increased confidence to remain active. Together, these findings suggest that Civic Dollars supported not only individual behaviour change but also strengthened community capacity by enabling trusted local organisations to create opportunities that participants continued to access after the formal programmes had ended.

All responding organisations expressed a willingness to work with Civic Dollars again and recommended the programme to others, further indicating that the initiative was viewed as a valuable mechanism for delivering community-based prevention and wellbeing activities. Several organisations also noted that these opportunities would not have been possible without Civic Dollars funding, highlighting the programme's contribution to expanding local capacity for preventative health and wellbeing initiatives.

Taken together, the organisational evaluations and qualitative interviews suggest that the legacy of Civic Dollars was not simply the activities it funded, but the confidence, relationships, habits and community capacity that remained after those activities had finished.

Graphic Harvest output from focus group with Civic Dollars participants

SECTION 10

Discussion

Explaining how Civic Dollars creates change

This evaluation sought not only to determine whether Civic Dollars achieved its intended outcomes, but also to understand how, why and under what circumstances behaviour change occurred. By integrating quantitative and qualitative findings, a programme theory was developed to explain the mechanisms through which Civic Dollars appeared to influence participant engagement, health behaviours and community participation.

The findings suggest that Civic Dollars functioned as more than a digital rewards platform. Rather than technology alone driving behaviour change, the programme appeared to work through the interaction of programme resources, supportive community contexts and a series of psychological and social mechanisms that enabled participants to initiate and sustain healthier behaviours. While incentives often encouraged initial engagement, the qualitative findings suggest that longer-term participation was increasingly supported by growing confidence, enjoyment, social connection, belonging and a sense of purpose. These mechanisms appeared to reinforce one another over time, allowing healthier behaviours to become integrated into participants' everyday lives.

Importantly, these mechanisms did not operate in the same way across all participants or settings. Consistent with principles of realist evaluation, the findings indicate that Civic Dollars was most effective when delivered through trusted community organisations offering accessible activities, supportive relationships and psychologically safe environments. Within these contexts, programme resources activated mechanisms that encouraged progression from registration to sustained participation. This programme theory provides a coherent explanation of the behavioural engagement pathways observed within the quantitative data and the experiences described by participants throughout the qualitative interviews.

The integration of quantitative and qualitative findings strengthens confidence in these conclusions. Quantitative analyses identified measurable patterns of engagement and participant outcomes, while qualitative findings explained the processes through which these changes appeared to occur. Together, these complementary sources of evidence provide a richer understanding of how Civic Dollars supported behaviour change than either dataset could have achieved independently.

Implementing prevention in the real world

Civic Dollars was originally designed to support adults at increased risk of developing Type 2 diabetes by encouraging greater physical activity, increased time spent outdoors and stronger community participation. The original implementation model centred on recruitment through General Practice, enabling individuals identified as being at increased risk of diabetes to access a preventative, community-based intervention.

In practice, implementation revealed several challenges commonly associated with preventative public health programmes. Information governance requirements, competing clinical priorities and wider pressures within primary care limited recruitment through GP practices, requiring the programme to broaden eligibility to include adults who self-reported recognised diabetes risk factors.

Rather than representing a limitation of the intervention itself, this adaptation provides important learning for future prevention programmes. Successfully identifying individuals at risk is only one element of effective implementation. Equally important is establishing recruitment pathways that are trusted, accessible and capable of supporting participants beyond initial registration. The findings suggest that community organisations, local authorities and healthcare providers each have complementary roles within successful preventative health systems. Community organisations, in particular, appeared to provide the trusted relationships, local knowledge and ongoing support required to translate initial interest into sustained participation.

These findings are consistent with implementation science, which recognises that the success of complex interventions depends not only on the quality of the intervention itself but also on the contexts in which it is delivered. Civic Dollars therefore demonstrates the importance of viewing implementation as an active component of intervention success rather than simply a method of programme delivery.

Understanding behavioural engagement

The behavioural engagement pathways developed through this evaluation provide a more nuanced understanding of programme participation than traditional measures of downloads or registrations alone. Rather than representing a binary distinction between users and non-users, engagement developed progressively as participants moved from registration to active participation, reward redemption and, for some, charitable donation.

The qualitative findings provide important insight into this progression. Participants described healthier lifestyles emerging through small, achievable changes rather than dramatic transformations. Increased walking, greater confidence and the development of new routines reflected gradual behavioural progression supported by accessible opportunities and repeated participation. These findings align closely with the COM-B model, suggesting that Civic Dollars enhanced physical and social opportunity while strengthening reflective motivation through rewards, feedback and positive experiences.

The Transtheoretical Model similarly helps explain why participants progressed through different stages of engagement over time. Registration represented only the beginning of the behaviour change process. Continued participation appeared to reflect movement from preparation into action and, for many participants, towards maintenance as healthier routines became established.

Perhaps the most significant contribution of the qualitative findings relates to motivation. While rewards clearly encouraged initial participation, participants rarely described them as the primary reason for remaining engaged. Instead, many described enjoyment, confidence, improved wellbeing and social connection as the reasons they continued participating. This gradual shift from externally motivated participation towards increasingly internalised motivation aligns closely with Self-Determination Theory, suggesting that Civic Dollars supported the psychological needs for competence, autonomy and relatedness. Rather than undermining intrinsic motivation, incentives appeared to provide a bridge through which healthier behaviours became increasingly self-sustaining.

Community as a mechanism of change

One of the most important findings emerging from this evaluation is that community connection functioned not simply as an outcome of Civic Dollars, but as one of its principal mechanisms of change.

Across the qualitative findings, participants consistently described the importance of trusted organisations, welcoming environments and opportunities to participate alongside others. Feelings of belonging, psychological safety and encouragement were repeatedly identified as factors that increased confidence and supported continued participation. These experiences suggest that community relationships were not peripheral to programme success but fundamental to the behavioural processes through which change occurred.

This interpretation is reinforced by the quantitative findings. Participants recruited through existing community groups progressed further along the behavioural engagement pathway than those recruited through workplace settings. While workplace recruitment successfully generated registrations, community organisations appeared more effective in supporting continued participation, suggesting that opportunities for repeated engagement and social reinforcement were critical components of successful implementation.

These findings extend beyond individual behaviour change. Civic Dollars appears to have functioned as a community-embedded intervention in which local organisations, shared activities and supportive relationships created the conditions necessary for healthier behaviours to develop and persist. This interpretation also resonates with Diffusion of Innovation Theory, where community settings provided environments in which new behaviours could be observed, encouraged and normalised through existing social networks.

Evidence from organisational evaluations further strengthens this interpretation. Across five community organisations, staff consistently reported that participants continued engaging in activities after funded programmes had ended, including independent swimming, ongoing walking groups, regular golf participation and continued involvement in wider community activities. These organisational observations closely mirrored participants' qualitative accounts of developing new routines, friendships and confidence through Civic Dollars. Together, these findings suggest that the programme’s influence extended beyond individual behaviour change to create a broader community legacy characterised by sustained participation, strengthened community relationships and enhanced capacity within local organisations to support future preventative health initiatives.

Participant outcomes

The objective app data matched pre-post analyses and participant experiences provide converging evidence that behavioural engagement was accompanied by meaningful improvements in participant outcomes. Significant improvements in physical activity, community belonging, positive emotions and happiness suggest that increased engagement translated into tangible benefits beyond app usage alone.

A small subgroup of participants recruited through GP also completed matched PHQ-9 and GAD-7 measures. Although the number of complete clinical outcome measures was insufficient to support inferential analysis, descriptive findings were consistent with the wider pattern of improved wellbeing observed across the evaluation.

Qualitative findings enrich these quantitative observations by illustrating how these outcomes were experienced in everyday life. Participants described becoming more physically active, developing healthier routines, increasing their confidence and reconnecting with their local communities. Rather than describing isolated changes, participants often portrayed improvements across multiple aspects of wellbeing that reinforced one another over time.

Importantly, participants also described deriving satisfaction from donating Civic Dollars to local organisations and contributing to community life. These findings suggest that programme benefits extended beyond individual behaviour change to include wider community participation and social value.

Strengthening implementation

While participant experiences were overwhelmingly positive, the evaluation also identified practical opportunities to strengthen future implementation.

Participants described occasional technical difficulties with the app, uncertainty regarding rewards and sometimes challenges identifying suitable activities. Others highlighted competing life demands that interrupted participation despite positive intentions. These findings reinforce the importance of considering implementation as a dynamic process requiring ongoing support rather than a one-off recruitment event.

The qualitative findings suggest that successful implementation depends upon the entire participant journey. Clear onboarding, accessible opportunities, reliable technology and continued encouragement appear essential for supporting progression beyond initial registration. Community organisations were particularly effective in providing these conditions, suggesting that future implementation strategies should continue to prioritise partnership working and community-based delivery.

Implications for policy and practice

The findings of this evaluation have implications that extend beyond Civic Dollars itself. They suggest that digital public health interventions are unlikely to achieve sustained behaviour change through technology alone. Instead, digital platforms appear most effective when embedded within trusted community infrastructures that support ongoing participation, foster social connection and enable healthier behaviours to become part of everyday life.

Future commissioning should therefore recognise community organisations as essential implementation partners rather than optional delivery agents. Investment in community capacity, relationship building and locally tailored delivery may be as important as investment in digital technologies themselves. Evaluations should similarly move beyond measuring registrations or downloads towards understanding how participants progress through behavioural engagement pathways and the contexts and mechanisms that support these journeys. Commissioners should also recognise community legacy as an meaningful outcome of preventative interventions, acknowledging that strengthened local partnerships, increased community capacity and sustained participation in community activities represent valuable impacts alongside individual health outcomes.

Overall, this evaluation suggests that Civic Dollars should be understood not simply as a digital rewards platform, but as a community-based behaviour change intervention. Its effectiveness depended not only on the technology itself, but on the relationships, organisations and opportunities through which it was delivered. By combining digital innovation with trusted community infrastructure, Civic Dollars created conditions in which healthier behaviours could be initiated, sustained and, for many participants, become integrated into everyday life.

SECTION 11

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