Evaluating the Health and Wellbeing Benefits of Knowsley’s Natural Health Service

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Abstract

Purpose: Investigating the health and wellbeing benefits of Knowsley’s Natural Health Services within parks and green spaces.

Method: A mixed methods study followed a sample 78 participants taking part in Knowsley’s Natural Health Service interventions in surrounding parks and greenspaces. Participants were assessed using the Warwick Edinburgh Mental Wellbeing Scale (WEMWBS) and the International Physical Activity Questionnaire (IPAQ) at baseline and at follow-up to assess wellbeing and habitual physical activity. Participants were also monitored mid-intervention (week 6) using pedometers worn for 7 days to measure steps taken per day. At follow-up case studies were gathered, providing rich in-depth data regarding the participants’ experiences of the services and their impact on their health and wellbeing.

Results: Participants showed increased physical activity on the days they attended services compared to a regular days, with an increase in steps taken per day measured by pedometers. Participants reported improvements in physical health and wellbeing as a result of attending services in addition to increased social interaction, which was valued highly, according to case studies. Long-term benefits include an increased use of parks and green spaces in Knowsley, extending to their wider family and friends.

Conclusion: This evaluation demonstrates Knowsley’s Natural Health Services as effective physical activity interventions, which improve health and wellbeing.
Introduction

Knowsley’s Parks and Green Spaces

Knowsley, a metropolitan borough of Merseyside, expands across Kirkby, Prescot, Huyton, Whiston, Halewood, Cron ton and Stockbridge Village; Kirkby, Huyton, and Prescot which forms part of the wider Liverpool City Region. Although best known for Knowsley Hall and Knowsley Safari Park, Knowsley also is home to some of the best green spaces in Merseyside with two thirds of the land classed as green space, greater than any other authority in the Liverpool City Region. Green spaces compromise four borough parks and 17 local parks and natural spaces. These include formal parks, gardens, woodlands, natural spaces, sports areas and playgrounds, in addition to numerous Green Flag award-winning sites (Knowsley Council, 2014).

Within Knowsley’s Corporate Plan for 2013-2016 green spaces are emphasised as a key feature to attract more people to live and work in the Borough. Actions to improve the environment, limit carbon emissions, and provide more accessible facilities and services to encourage residents to walk, cycle and use public transport, are therefore vital (Knowsley Council, 2013-2016).

Health and Wellbeing in Knowsley

Actions to improve health and wellbeing in the Borough are also a key priority for Knowsley Council (2013-2016). Specific aims state that everybody should have the opportunity to have the best health and wellbeing throughout their life, people are protected from risks that can affect their health and wellbeing and more people look after themselves and support others to do the same.
Current statistics show that Knowsley residents are more likely to smoke, drink alcohol and have higher obesity prevalence than the rest of the North West. This explains the high prevalence rates of preventative diseases such as cancer, respiratory disease, heart disease and strokes. Almost three-fifths (59%) of adults are either overweight or obese and almost a quarter of children aged 10-11 years old are obese. However, only a third of adults participate in the recommended levels of physical activity. Statistics also show that people in the Borough die earlier than national averages, with males in the most deprived areas dying almost 5 years earlier and females dying 4 years earlier.

Significant progress has been made however, to improve these issues, with major reductions in cancer and heart disease death rates, therefore narrowing of the gap between Knowsley and the North West national average. Further improvements need to be made, however to address this gap in health and wellbeing equality.

Parks and Green Spaces to Increase Health and Wellbeing

Knowsley’s Natural Health Services within surrounding parks and green spaces are proposed as an effective way to address health and wellbeing inequality in the Borough. These areas offer miles of attractive walking and cycling routes, and activities such as walking and cycling suitable for all abilities with beginners, intermediates and advanced groups, Nordic walking groups and green volunteering sessions all lead by local Green Space Rangers.

In providing these activities, Knowsley is using one of its key assets, the award winning parks and green spaces, to tackle an area that needs addressing, health and wellbeing. These services will also meet a specific aim outlined to improve health and wellbeing, which is allowing more people to look after themselves and support others to do the same. These services will encourage people to adopt healthy lifestyles, by engaging in physical activity in
their local community, enabling people to remain self-reliant and independent for as long as possible and encouraging a better quality of life.

**Green Exercise Benefits**

These services in Knowsley’s parks and green spaces are often described as ‘green exercise’. This is a term used to describe performing physical activities whilst directly exposed to nature or green space. Green exercise has been shown to have important benefits for health and wellbeing by providing greater improvements in self-esteem and mood than physical activity alone (Pretty et al, 2005). These improvements can be achieved regardless of the type of natural environment or activity and can involve as little as 5 minutes of participation of moderate-intensity green exercise (Barton and Pretty, 2010; Pretty et al, 2007 and Pretty et al, 2005).

Pretty et al (2005) investigated the effects of participating in physical activity, while being directly exposed to nature. 100 participants were divided into five groups of 20 and were exposed to a sequence of 30 scenes projected onto a wall whilst exercising on a treadmill. The scenes consisted of 4 categories, which were rural pleasant, rural unpleasant, urban pleasant and urban unpleasant. The control was running without exposure to images. Measures of blood pressure and two psychological measures (self-esteem and mood) were taken at baseline and follow-up. Exercise alone significantly reduced blood pressure, increased self-esteem, and had a positive significant effect on 4 of 6 mood measures. Both rural and urban pleasant scenes produced a significantly greater positive effect on self-esteem than the exercise-only control. Whereas both rural and urban unpleasant scenes reduced the positive effects of exercise on self-esteem. This shows the synergistic effect of green exercise in both rural and urban environments, concluding that green exercise has important public and environmental health consequences.
In a later study (Pretty et al., 2007) measured the effects of 10 green exercise case studies, including walking, cycling, horse-riding, fishing, canal-boating and conservation activities within 4 regions of the UK. The sample consisted of 263 generally healthy and active participants. Data was collected using questionnaires containing validated scales to measure health and wellbeing and assess any changes. The results showed that green exercise led to a significant improvement in self-esteem and total mood disturbance. These changes did not differ according to the type, intensity or duration of the green exercise, as the results were similar for all 10 case studies. All activities generated mental health benefits, therefore promoting the effectiveness of green exercise in health and wellbeing.

Barton and Pretty (2010) examined the best dose of nature and green exercise to improve self-esteem and mood in a multistudy analysis. This study used a meta-analysis methodology to investigate 10 studies in the UK with a total of 1252 participants. Mental wellbeing benefits were demonstrated regardless of exercise intensity or duration of activity, with every green environment improving self-esteem and mood. Interestingly greater effects were shown when participants were exposed to water. However and those who were mentally ill had the greatest self-esteem improvements.

An observational study (Mitchell et al., 2013) investigated the benefits of physical activity in a natural environment with physical activity in a non-natural environments using data from the Scottish Health Survey (2008), detailing all environments in which participants were physically active. Health and wellbeing was assessed using the General Health Questionnaire (Goldberg and Williams, 1991) and the Warwick Edinburgh Mental Wellbeing Scale (Tennant et al., 2007). Associations were revealed between regular use of natural environments and a lower risk of poor mental health, but not for as opposed to non-natural environments. The study concludes that physical activity in natural environment is associated
with a reduction in the risk of poor mental health to a greater extent than physical activity in other environments.

Kinnafick and Thogersen-Ntoumani (2014) investigated the effects of two opposing environments, urban versus natural with walking and sitting on affective states in either a laboratory or an outdoor setting. While doing either walking and sitting participants watched film clips or were exposed to an urban or a natural environment. Benefits of being exposed to a natural outdoor environment with walking showed an increase in energy levels. Whereas short bouts of sedentary behaviour increased state negative affect with tiredness, and decreased energy levels.

Natural England (2013) commissioned a report known as the Monitor of Engagement with the Natural Environment (MENE) this is a national survey on people and the natural environment in regards to wellbeing. This report uses the Office for National Statistics (ONS) wellbeing measures, which assess levels of wellbeing amongst the adult population living in the UK. These measures included life satisfaction, which asked ‘Overall, how satisfied are you with life nowadays?’, Worthwhile, asking ‘Overall, to what extent do you feel that the things you do in your life are worthwhile?’, Happiness, which asked ‘Overall, how happy did you feel yesterday?’ and Anxiety, which asked ‘Overall, how anxious did you feel yesterday?’. In each question, responses are provided on a scale from 0 ‘not at all’ to 10 ‘completely’. The MENE survey used these measures to collect information on people’s use and enjoyment of the natural environment and its effects on wellbeing, focusing on visits to the natural environment. Data was collected in four weekly waves of surveying in 2012/13, with a total of 3,528 interviews. Results showed that those who visited the outdoors once a month or more scored significantly higher in life satisfaction ratings than those who visited less often. In terms of happiness ratings, those who visited the outdoors more often than once
a week scored more highly than those who visited less than once a month. The anxiety scores showed that those who visited the outdoors at least once a month, reported themselves as less anxious than those who visited less often. Furthermore those who participated in gardening showed the highest levels of life satisfaction, happiness and the lowest levels of anxiety.

Rationale

When reviewing the literature surrounding green exercise, clear physical and mental health benefits are observed. Therefore, this study aims to investigate the health and wellbeing benefits of green exercise activities in Knowsley’s parks and green spaces in a repeated measures design study. The study will assess those taking part in Knowsley’s natural health services including walking and cycling offered at beginners, intermediates and advanced ability levels, as well as those taking part in Nordic walking, allotment volunteering and green volunteering. Participants will be assessed using questionnaires containing validated outcome measures distributed at baseline and at 12 week follow-up, physical activity monitoring will be conducted mid-intervention (week 6) using pedometers and qualitative case studies will also be gathered.
Method

Design

The present study was a within-subjects design study. It followed a sample of 78 participants attending Knowsley’s Natural Health Services in Knowsley’s parks and greenspaces. These services included:

- Walking- at beginners, intermediate and advanced levels
- Nordic Walking
- Cycling- at beginners, intermediate and advanced levels
- Allotment Volunteering
- Green Volunteering

Participants were measured at two time points with a 12 week time interval. The questionnaires were given at the beginning of the evaluation and at a 12 week follow-up. Randomly selected participants were also provided with a Pedometer for 7 days to measure steps taken per day and compare steps taken when attending services with other weekdays. Those indicating their consent to provide a case study were emailed with a link to an online survey to provide a case study, where they had the opportunity to give feedback on the impact that the services have had on their lives in general.

Participants

The sample consisted of 78 participants, 37 were male and 41 were female, who were existing service users. They were asked if they would like to take part in the research and were given recruitment materials.

Apparatus and materials

The following materials were used:
A gatekeeper information sheet (Appendix A) was used to inform the session leaders about the nature of the research. This asked for assistance in recruiting participants from about to start the sessions and gave contact details if they required any further information. A gatekeeper consent form (Appendix B) was then given to session leaders to sign if they agreed for their group members to take part in the research.

A participant information sheet was given to potential participants (Appendix C). This gave a brief overview of the research, the purpose of the study, what was required from participants should they choose to take part and what taking part in the study would involve. It also reassured potential participants that, if they choose to take part, their results will remain confidential. This also provided contact details of the Research Assistant, if any additional information was required. Participants were required to read this before giving consent to take part in the study.

Those wishing to take part in the study were required to sign and date a consent form (Appendix D) confirming that they understood the nature of the study, that they understood that their participation was voluntary, meaning that they could withdraw from the study at any time without having to give a reason, confirming their understanding that their results would remain confidential and anonymous, and thereby agreeing to take part.

A baseline questionnaire was given to those wishing to take part in the research (Appendix E). The questionnaire asked for demographic information, including participants’ names (so that the baseline questionnaire could be matched to the follow-up questionnaire, as well as their gender and age bracket. The follow-up questionnaire (Appendix G) was identical to the baseline questionnaire and contained:

The Warwick-Edinburgh Mental Well-being Scale (WEMWBS) (Tenant et al, 2007)-
A self-report questionnaire measuring mental wellbeing in adults and adolescents.
The 14-item scale contains a global wellbeing measure, including affective-emotional aspects, cognitive evaluative dimensions and psychological functioning with high internal consistency (α=.91). All items are worded positively, reflecting positive aspects of mental health over the past 2 weeks. Each item is scored on a 5-point likert scale ranging from 1 ‘none of the time’, 2 ‘rarely’, 3 ‘some of the time’, 4 ‘often, and 5 ‘all of the time’. The minimum score is 14 and the highest score is 70, higher scores represent greater mental well-being. This has previously been used as an outcome measure of mental well-being in previous similar research (Mitchell, 2013; Wood et al, 2011).

The International Physical Activity Questionnaire (IPAQ) (Craig et al, 2003)- A self-report short 7-item scale measuring the time participants have spent been physically active in the past 7 days. It is a scale designed for cross-national physical activity and inactivity monitoring. Participants are scored on 3 different types of activity undertaken, which are walking, moderate-intensity activities, and vigorous-intensity activities. These are assessed across 4 domains, which are leisure time physical activity, domestic and gardening (yard) activities, work-related physical activity, and transport-related physical activity. Total scores are calculated using the summation of duration (in minutes) and frequency (in days) of walking, moderate-intensity activities and vigorous-intensity activities. Participants are classified as low, moderate or high in physical activity levels. High classifications refer to high levels of participation in physical activity, moderate is defined as taking part in some activity, whereas low does not meet the criteria of the moderate or high. Continuous scores are transformed into MET-minutes per week. It contains a high internal consistency, for (α=.93), and has been used in previous similar studies (Hawkins et al, 2011).
A Digiwalker Pedometer was allocated to randomly selected participants in the middle of the study (week 6) to measure steps taken over 7 days and compare steps taken on days participating in services with other weekdays. Those participants selected were given a Pedometer Record Sheet (Appendix F) with instructions on how to use the pedometer and a table to record steps taken for each day of the week.

At follow-up (week 12), those participants who provided their email on the baseline questionnaire were sent a link to an online survey which asked participants to expand on the impact that the services had on their lives in general. Participants could choose to remain anonymous to their entry.

Procedure

Existing service users were recruited in December 2014- February 2015 from services including walking services, Nordic walking, cycling, allotment volunteering and green volunteering in Knowsley’s parks and green spaces.

To recruit participants onto the study, the Service Leaders of each service were approached as gatekeepers and given Gatekeeper Information Sheets (Appendix A) with details of what the study will involve and asking for their assistance in recruiting participants onto the study. They were then given a Gatekeeper Consent Form (Appendix B) to consent to the service users within their sessions participating in the study. The service users were then approached and asked if they would like to take part in a study evaluating the health and well-being benefits of Knowsley’s Natural Health Services. They were given a Participant Information Sheet (Appendix C) to read, which informed participants about why the study was been conducted and what taking part would involve. They were then asked to sign a Participant Consent Form (Appendix D) to indicate their consent to take part, which was returned to the
Research Assistant. They were then asked to complete and return the Baseline Questionnaire (Appendix E).

Participants could indicate on the baseline questionnaire whether they would consent to wearing a pedometer half-way through the intervention (week 6) for 7 days. From those participants, participants were randomly selected to wear a pedometer at week 6 and were to wear for 7 days and record their steps per day on the Pedometer Record Sheet (Appendix F) provided. After 7 days the record sheets and the pedometers were collected and the results were analysed.

After 12 weeks, participants were asked to complete the Follow-up Questionnaire (Appendix G) and those consenting to provide a case study were emailed with a link to an online survey where they were instructed to provide more detail about how the service has impacted upon their life. Participants could choose whether or not they wished to remain anonymous to their case study or state their name.

Ethical Considerations

This study aimed to comply with ethical guidelines. All session leaders were provided with a Gatekeeper Information Sheet (Appendix A) with contact details to inform them about the nature of the study. Participant Information Sheets (Appendix C) were given to potential participants in the sessions, giving information about the study, in regards to its purpose, what was required should they choose to take part, what taking would involve, reassuring that, if they choose to take part, their results would remain confidential and gave contact details of the Research Assistant for any additional information. Consent forms (Appendix B and Appendix D) were signed by gatekeepers and participants to confirm that they understood the nature of the study, that their participation is voluntary, meaning that they can
withdraw from the study at any time without having to give a reason, that their results will remain confidential and anonymous, and thereby agreeing to take part in the study.
Results

Response Rate

78 participants took part in the study at baseline, of those participants, 41 took part in the follow-up measures. Of the 78 participants taking part, 39 (50%) agreed to provide a case study via an online survey to provide feedback on the impact the services had on their lives, 13 of those emailed provided a case study. 53 participants (68%) gave permission to wear a pedometer during the evaluation for 7 days, 7 participants wore their pedometers for 7 days and completed a record sheet of their steps per day.

Of the 78 participants taking part, 24 were recruited from the Intermediate Walking Group, 18 from the Beginners Walking Group, 10 from the Intermediate Cycling Group, 8 from the Advanced Walking Group, 7 from the Nordic Walking Group, 6 from the Allotment Gardening Group, 4 from the Beginners Cycling Group and 1 from the Green Volunteering Group. In terms of recruitment locations, 40 participants were recruited from Court Hey Park, 19 from Stadt Moers, 7 from Hale Wood, 6 from Knowsley Village and 6 from Mill Farm.

Demographics

In terms of demographic variables, ages ranged from 30-70 and over, the majority of participants (42%) were aged 60-70 years old. 37 participants were male (47%) and 41 participants were female (53%).

Descriptive Statistics

The mean scores and standard deviations of the Warwick-Edinburgh Mental Well-being Scale (WEMWBS) (Tenant et al, 2007) and the International Physical Activity Questionnaire (IPAQ) (Craig et al, 2003) at baseline and follow-up are shown in table 1.
Table 1. Table of Means and Standard Deviations of Outcome Measures

<table>
<thead>
<tr>
<th>Measures</th>
<th>Baseline</th>
<th></th>
<th>Follow-up</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>WEMWBS</td>
<td>54.25</td>
<td>7.61</td>
<td>54.02</td>
<td>8.16</td>
</tr>
<tr>
<td>IPAQ -Vigorous Physical Activity (MET-Minutes/week)</td>
<td>275.36</td>
<td>500.48</td>
<td>210.00</td>
<td>341.64</td>
</tr>
<tr>
<td>IPAQ- Moderate Physical Activity (MET-Minutes/week)</td>
<td>306.14</td>
<td>493.68</td>
<td>281.04</td>
<td>489.77</td>
</tr>
<tr>
<td>IPAQ- Walking (MET-Minutes/week)</td>
<td>614.64</td>
<td>825.71</td>
<td>740.38</td>
<td>626.67</td>
</tr>
<tr>
<td>IPAQ- Total (MET-Minutes/week)</td>
<td>970.56</td>
<td>1065.84</td>
<td>1240.99</td>
<td>933.86</td>
</tr>
</tbody>
</table>

Baseline to Follow-up Comparisons

Warwick Edinburgh Mental Wellbeing Scale

A dependent T-Test was conducted to analyse the differences in WEMWBS from baseline to follow-up. The results showed that there were no significant differences from baseline (M=54.25, SD=7.61) to the follow-up questionnaire (M=54.02, SD=8.16) for the Warwick Edinburgh Mental Wellbeing Scale (t=-.715, DF=29, two-tailed p=.481).

International Physical Activity Questionnaire

A repeated-measures ANOVA was conducted to assess the differences between the IPAQ scores at baseline and follow-up. The results showed that there were no significant differences from baseline (M=275.36, SD=500.48) to the follow-up
questionnaire (M=210.00, SD=341.64) (F1, 26= 1.502, p=.231) for vigorous physical activity. There were no significant differences from baseline (M=306.14, SD=493.68) to follow-up questionnaire (M=281.04, SD=489.77) for moderate physical activity (F1, 26=.371, p=.548). There were no significant differences from baseline (M=614.64, SD=825.71) to follow-up questionnaire (M=740.38, SD=626.67) for walking (F1, 26= .008, p=.929). There were no significant differences from baseline (M=970.56, SD=825.71) to follow-up questionnaires (M=1240, SD=933.86) for total IPAQ scores (F1, 26=.371, p=.548).

Although statistically significant differences were not present in WEMWBS and IPAQ questionnaire scores at baseline and follow-up, trends revealed greater scores for IPAQ Walking and Total components at follow-up when compared to baseline scores, see figure 1.
Pedometer Results

The pedometer results are shown below (table 2). It can be observed that the mean steps taken when participants attended the services (Steps taken- Service day) are much greater for the majority participants than the mean number of steps taken during other days of the week (Steps taken- Regular days).

Table 2. Steps taken during service days and regular weekdays.

<table>
<thead>
<tr>
<th>Participant Number</th>
<th>Gender</th>
<th>Service</th>
<th>Place</th>
<th>Steps taken- Service day</th>
<th>Steps taken- Regular days (Mean)</th>
</tr>
</thead>
<tbody>
<tr>
<td>34</td>
<td>M</td>
<td>Walking</td>
<td>Stadt Moers</td>
<td>8136</td>
<td>3087</td>
</tr>
<tr>
<td>44</td>
<td>F</td>
<td>Walking</td>
<td>Kirkby Mill Farm</td>
<td>15921</td>
<td>10468</td>
</tr>
<tr>
<td>49</td>
<td>F</td>
<td>Walking</td>
<td>Kirkby Mill Farm</td>
<td>15181</td>
<td>6957</td>
</tr>
<tr>
<td>77</td>
<td>M</td>
<td>Walking</td>
<td>Stadt Moers</td>
<td>14693</td>
<td>8514</td>
</tr>
<tr>
<td>78</td>
<td>M</td>
<td>Walking</td>
<td>Stadt Moers</td>
<td>11589</td>
<td>5104</td>
</tr>
<tr>
<td>16</td>
<td>F</td>
<td>Nordic Walking</td>
<td>Court Hey Park</td>
<td>15557</td>
<td>8574</td>
</tr>
<tr>
<td>21</td>
<td>F</td>
<td>Nordic Walking</td>
<td>Court Hey Park</td>
<td>3902</td>
<td>8513</td>
</tr>
</tbody>
</table>

Figures 2 and 3 show the comparisons between steps taken on a service day with the mean number of steps taken on regular weekdays for the Walking Services at Stadt Moers and Kirkby Mill Farm and the Nordic Walking Services at Court Hey Park.
Figure 2. Steps taken on walking service days and regular days

Figure 3. Steps taken on Nordic walking service days and regular days

Case Studies

Participants who gave permission to be contacted to provide a case study at follow-up were emailed a link to an online survey to provide a short summary of how attending the services had impacted on their life in general. They were asked to consider whether they enjoyed the
service, if it had affected your physical and mental wellbeing and whether it influenced their use of parks and green spaces in the future. The following statements were extracted from the case studies to illustrate participants’ responses.

“I enjoy working on the allotment it is I a good way of keeping fit also meeting new people is a good way to meet others... everyone is very friendly ideal for retirement or if you live alone it helps to make new friends” Female, Age 67 attending the Allotment Volunteering at Stadt Moers

“Yes I enjoy the service ...the walking is beneficial to health and the company is good... hoping to continue using the park in the future ,the ranger is a good leader and enthusiastic.” Male, Age 68 attending the Intermediate Walking at Court Hey Park

“I feel much better I sleep much better and therefore looking forward to getting up out of bed in the mornings.” Female, Age 63 attending Beginners Walking at Knowsley Village

“Walk from this centre twice a week and really enjoy it . I am 73 and I feel the exercise , fresh air and being with other like minded people keeps me going . I had a knee replacement 2 years ago , I felt getting back to the walking as soon as I could helped my recovery a lot. I have been going to Stadt Moers for over 7 years , didn't know about the park before that . We also go walking sometimes at Halewood , from the visitors centre . The Rangers at both parks are very good and very helpful . I hope to be able to use the parks for many more years to come.” Female, Age 73 attending Intermediate Walking at Stadt Moers
“I enjoyed the walks ...I belong to 2 other walking groups and social contact is a very important aspect.” Female, Age 80 attending Beginners Walking at Knowsley Village

“The service provided for Nordic Walking was excellent and led to my becoming a volunteer Nordic Walk Leader. As a distance runner for many years and still in veteran competition and also a regular walker with the Ramblers Association I was already physically fit with a positive attitude and using the parks and green spaces for these purposes. The Nordic Walking is an extra pursuit as my running ability lessens with age.” Male, Age 74 attending Nordic Walking at Court Hey Park

“The service by the Rangers at Strat Moers is excellent ... It is good to go out walking and talking with a group of people. My wife and myself have always used the parks at Start Moers since they were made many years ago. “Male, Age 71 attending Advanced Walking at Start Moers

“The cycling has helped me to regain my cycling confidence and to meet new people since ceasing work after my heart attack/bypass operation. The green volunteering has allowed me to use my interest and knowledge to help a local park.” Male, Age 64 attending Intermediate Cycling and Green Volunteering at Court Hey and Stadt Moers

“I enjoyed the service in respect of its Ranger-lead walking programmes and socialising with fellow walkers and progressed to Community Walk Leader... it improved my feeling of well-being by regular weekly outdoor exercise and contact with fellow walkers. It also led to joining the Friends of Court Hey Park committee and coach excursions to historic houses. I have made greater use of the parks facilities e.g. playgrounds and Cornflower Café with my family and
attended/participated in more events: Artisans' Market, Green Fayre etc. The National Wildflower Centre also use the park for their 'green' events and activities which I have attended with my family. So now when looking to see what's on locally I have a look first at what's on in the park.” Male, 65+ attending Nordic Walking at Court Hey Park

“I enjoy walking with Ranger and group. It is good for my health, and the company is very good” Female, Age 72 attending Intermediate Walking

“I have always thought that Knowsley Council did a really good job of looking after green spaces but I thought it was for other people to enjoy. I now enjoy these myself and feel part of the area. I walk more and like meeting people and looking at the flowers. I think it has helped me a lot as I didn’t like going out much as I had panic attacks. These are not as bad now and I am enjoying more social interaction as I was lonely before.” Female, Age 50 attending Beginners Cycling at Stadt Moers

It can be observed from these case study quotes that participants enjoyed the services and attributed their participation to improved physical health, in terms of increasing their physical fitness, in aiding recovery from illness and surgery and greater sleep quality. In terms of mental wellbeing, participants reported improvements in mood, increased confidence, lower levels of anxiety and feeling less isolated and feeling part of their local community. In terms of long-term benefits, continued utilization of parks and green spaces was also reported, which also extends to wider family members and services have also influenced participants been recruited as volunteers as Community Walk Leaders and as members of Friends of groups. Participants also complimented the personalities and skills of the Service Leaders.
In terms of self-report measures used in this evaluation, no significant differences were observed. There were no statistically significant differences in terms of health and wellbeing according to the scores on the Warwick-Edinburgh Mental Well-being Scale (WEMWBS) (Tenant et al, 2007) and the International Physical Activity Questionnaire (IPAQ) (Craig et al, 2003) from the questionnaires distributed at baseline and to those at follow-up. Therefore participants did not experience significant health and wellbeing increases from receiving the baseline questionnaire to completing the follow-up questionnaire 12 weeks later. This is most likely due to the fact that the majority of participants had attended the services for a number of weeks prior to receiving the baseline questionnaire, therefore would have already experienced an increase in health and wellbeing and physical activity levels, which the baseline questionnaire was too late to capture. This explanation for the lack of significant differences is supported by the scores reported from the WEMWBS scores at baseline and follow-up, as these reflect an average mental wellbeing score, which was higher than the national average (NHS, 2011). Additionally, the IPAQ scores reveal that participants were classed as moderate to high in physical activity engagement with participants reaching a mean 970.56 MET-minutes/week at baseline and 1240.99 MET-minutes/week at follow-up, with moderate physical activity levels classed as 600 MET-minutes/week and high levels at 3000 MET-minutes/week (Craig et al, 2003). Although significant differences were not found for IPAQ scores at baseline and follow-up, trends revealed increases in walking and total component scores from baseline to follow-up.

Pedometer results revealed an increase in steps taken on the days of the services compared to the average number of steps taken on other days of the week for those on the walking and the Nordic walking services. This objective data strengthens the trends observed in terms of the increased walking and total components of the IPAQ scores but also demonstrates the services as a successful in physical activity intervention.

The findings from case studies taken at follow-up provide rich, in-depth and subjective data regarding the impact that the services have had on the individual. Findings revealed that participants enjoyed the services and actually attributed the services to their improved physical and mental wellbeing. These findings suggest that significant increases in WEMWBS scores would be gained, if baseline measures were taken from participants when beginning the services. In terms of physical health improvements, participants report an
increase in physical fitness, improved recovery from illness and surgery as well as greater sleep quality at night. Mental wellbeing benefits included an improved mood in general, increased confidence, lower levels of anxiety, which was particularly evident for one participant who reported to suffer from panic attacks before attending the services, and people feeling less isolated. Participants also continued to use their parks and green spaces in their leisure time and encouraged their friends and family to do so. Therefore the benefits of services are not only maintained in the long-term, but are also extended to a wider network. Some participants also reported taking voluntary positions to continue using the skills they had learned allowing them more frequent access to the natural environment and responsibilities in maintaining its upkeep and utilization.

**Research Implications**

Although changes in health and wellbeing are not significant in a statistical sense, case study findings illustrate improvements in health and wellbeing since beginning the services, which is considerable, particularly with this sample from the Knowsley borough where actions to improve health and wellbeing are considered a key priority (Knowsley Council, 2013-2016) where residents are more likely to smoke, drink alcohol and have higher obesity prevalence than the rest of the North West, and higher prevalence rates of preventative diseases such as cancer, respiratory disease, heart disease and strokes. This supports Knowsley’s Natural Health Services potential in improving health and wellbeing in this target population.

Additionally the moderate to high physical activity levels reported on the IPAQ scores, supported by the increased steps within the pedometer data support Knowsley’s Natural Health Services as a successful intervention in promoting physical activity levels and decreasing sedentary behaviour. This is also particularly significant for this target population where almost three-fifths (59%) of adults are either overweight or obese and only a third participate in the recommended levels of physical activity.

Knowsley’s Natural Health Services therefore have potential to improve these statistics and address the gap in health equality in their provision of parks and green spaces and free access to physical activity interventions within those parks and green spaces.

**Advantages**

This evaluation used a wide range of evaluation methods including quantitative, qualitative and objective data techniques. This has allowed robust data to be gathered while also
capturing more subjective, rich and in-depth data from the individual regarding the effects of the services.

The increased physical activity reported from the pedometer data and the case study reports detailing greater health and wellbeing support the services potential as successful health interventions.

The study also consisted of a large sample size, with a good response rate at follow-up, making findings more generalizable to the wider population.

Limitations

Limitations to the current evaluation study were the lack of significant differences in the self-report measures, most likely due to the inability to capture participant’s true baseline scores when they began attending the services.

Suggestions for Future Research

Future research would seek to recruit participants from when they began attending services to capture their true baseline measures. Findings from the pedometer and case study data would suggest that differences in health, wellbeing and physical activity scores would show a significant increase from baseline and follow-up if evaluated in this way.

Longer follow-up periods could also investigate whether improvements in health and wellbeing could be maintained over a more significant period of time.

Conclusion

The evaluation of Knowsley’s Natural Health Service has demonstrated increased health and wellbeing benefits associated with participation in services taken from a variety of measures. Benefits range from increased levels of physical activity, improved physical and mental health and a continued use of surrounding parks and green spaces. The findings support Knowsley’s Natural Health Service as a successful physical activity intervention to improve health and wellbeing.
References


