

Addressing Health Inequalities with Nature in Oxfgangs, Edinburgh

Bio

Mollie Cochran: "Oxfgangs is a fantastic, dynamic community that I have lived beside for many years, however high levels of multiple-deprivation mean its people disproportionately experience health inequalities. I am passionate about nature-based solutions for health and well-being. Writing this report enabled me to explore how these can be rolled out at grassroots level by the community to combat this".

Abstract

This briefing is designed for the community of Oxfgangs, Edinburgh, to encourage local residents' participation in nature-based initiatives, to help alleviate the more negative health outcomes they disproportionately experience which links to their experiences of living in a low-income area. Oxfgangs is a residential suburb in south Edinburgh that experiences significant health disparities, especially when indices such as the Scottish Index of Multiple Deprivation and NHS Health and Wellbeing reports are compared to those of neighbouring Morningside, one of Edinburgh's most affluent areas. The primary and most effective solution to such health disparities is equitable distribution of power, income, and wealth, however this relies on political will and cannot be achieved by residents alone. Accordingly, this report makes a convincing case for how grassroots interventions in the form of nature-based solutions (NbS) that are implemented by the community can help overcome some of the health inequalities Oxfgangs' residents' experience, in order to improve their physical and mental health. The report sets out three specific recommendations; nature prescriptions (a hybrid solution), community gardening and local conservation activities. A participatory and collaborative approach is recommended and next steps outlined in order to begin action and implementation of a comprehensive greenspace-access strategy for the Oxfgangs community and affect positive change.

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Health Inequalities in Edinburgh

Cities are regarded as centres of prosperity, employment opportunities, education access, healthcare services and culture (Glaeser, 2011), but access to these services are not evenly distributed amongst all city residents.

Conditions such as cardiovascular disease, high blood pressure, obesity and type-2 diabetes are experienced more frequently within cities (Pretty et al., 2016) as a result of higher incidences of sedentary lifestyles (Dye, 2008), time indoors and on screens (Bratman et al., 2019). However, these problems are particularly pervasive amongst communities from low-income areas (Twohig-Bennett and Jones, 2018).

Oxgangs' history dates back to the 1950s to provide predominantly council housing for skilled workers in the city (Flint and Casey, 2008). A programme of redevelopment and regeneration oversaw the construction of new flats in 2006, which was regarded as successful by residents despite their continued awareness of constrained residency choices, job access and financial resources (Batty et al., 2011).

According to the Scottish Index of Multiple Deprivation (SIMD), Oxgangs ranks in the top 10% "most deprived" areas in Scotland, ranking within a range of 2-4 out of 10 for "Health Domain Rank." Criteria which contribute to these health outcomes are income, employment, health, education level, housing type, crime rate and geographic access, all of which are low-ranking on the SIMD (see Figure 1).

NHS Health and Wellbeing Reports (2010;2016) further detail multiple health factors which combine to give an overview of an average Scottish resident's life expectancy and health outcomes which vary across local authority areas. These factors include:

- Number of patients with a psychiatric hospitalisation
- Adults claiming incapacity benefit/severe disability allowance
- Working age population claiming Jobseeker's Allowance
- Out of work benefits/child tax credit income deprivation
- Crime rate
- Population living within 500 metres of a derelict site
- Number of patients hospitalised after a fall in the home (65+)

According to Oxfords' area profile, all of the above factors ranked as "significantly worse" compared to the Scottish national average. Oxfords' more negative community health outcomes are highlighted if compared to Morningside, Oxfords' adjacent suburb which is one of Edinburgh's most affluent and high-value areas that ranks in the top 10% "least deprived" areas according to the SIMD (2021), which obtains a "Health Domain Rank" of 10/10.

South Edinburgh's health inequalities are a consequence of the inequitable distribution of power, income, and wealth (Phelan, 1995). Money is ultimately what provides the means to access goods and services that support healthy living, such as nutritious diet, good housing, and leisure activities (Morris et al., 2010).

This highlights how systemic injustices cannot be overcome with state intervention alone. A grassroots intervention is required in order to help Oxfords' residents overcome the negative health outcomes they disproportionately experience, for an improved quality of life.

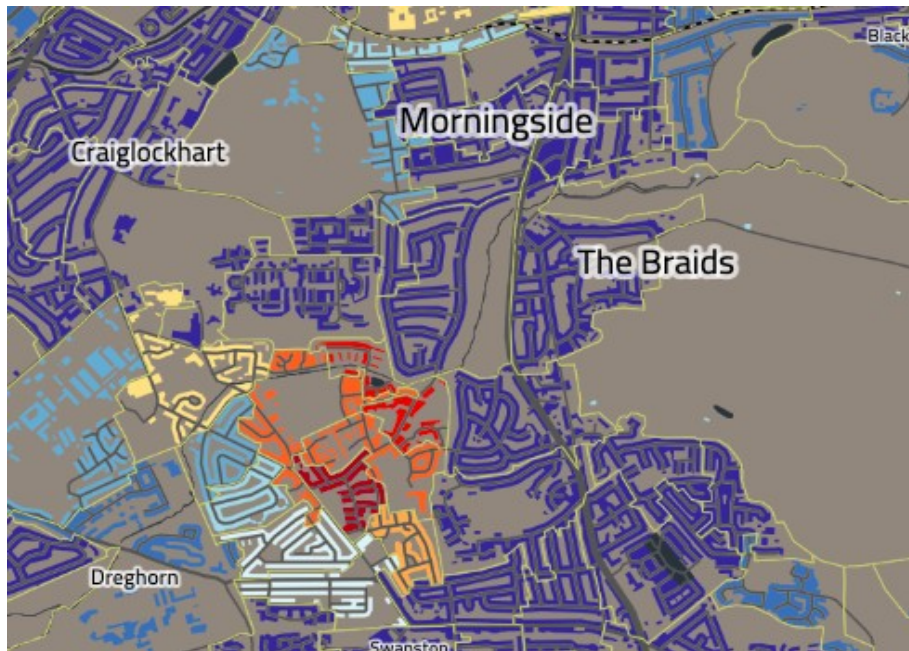


Figure 1 - SIMD Map; The dark blue area (Morningside) represents a neighbourhood's position within the top 10% "least deprived areas" of Scotland. In contrast, in Oxfords, the darkest red represents the top 10% most deprived, followed by bright red (2nd most deprived) and orange (3rd most deprived).

Nature-based Solutions

High quality parks and greenspaces are important urban assets because they enable local residents to obtain multiple physical and mental health benefits, if they are accessed on a regular basis (Sandifer et al., 2015). In terms of physical health, parks can encourage exercise such as walking, running or cycling. Promotion of gardening, volunteering or ecological restoration programmes can also support physiological and cardiovascular health if achieved on a regular basis for at least 30 minutes (Cox et al., 2017), and the positive well-being

effects that are obtained from exercise are augmented if done in nature (Thompson-Coon et al., 2011).

Biodiverse spaces contribute ecosystem services that are vital for human health such as offering cooling properties to reduce urban heat island effects (Bowler et al., 2011) and the filtration of air pollution by virtue of vegetation presence which can reduce the quantity of harmful toxins inhaled and improve immune function (Barton et al., 2009).

In terms of mental health, greenspaces can enhance an individual's life satisfaction and overall happiness because biodiversity and landscape produce restorative and calming benefits such as reduced stress and anxiety (Kaplan and Kaplan, 1989). Parks facilitate social contact, which is a reinforcing wellness factor and contributes to feelings of community cohesion (Cox et al., 2017). A sense of place can develop if regular access to a greenspace is encouraged and maintained, which can be empowering for individuals and the wider community (Kazmierczak, 2013).

The improvement of human health is considered the ultimate ecosystem service (Sandifer et al., 2015), which qualifies urban parks as “nature-based solutions” (NbS). NbS are defined by the IUCN as natural or modified ecosystems that address societal challenges effectively and adaptively, whilst simultaneously providing human well-being and biodiversity benefits (Cohen-Shacham et al., 2016). Connecting nature with public health offers a reciprocal and restorative relationship between health and environment which can align what is often a ‘conflicting urgency’ between sustainable development and social justice goals, as identified by Campbell (2013).

NbS are proven to help urban communities achieve goals such as poverty alleviation and socio-economic development (Seddon et al., 2020), so are vital assets for the Oxfords community, and deserve to be accessible and well utilised by all of its residents. Health inequalities are demonstrably narrower amongst people living in 'low-income' areas such as Oxfords if they have regular and easy access to greenspace (Gascon et al., 2015; Marselle et al., 2020). DEFRA and Natural England (2017) estimate that the NHS could save £2.1 billion per year if everyone had equitable access to sufficient greenspace.

Access Disparities

Regular greenspace access is hypothetically achievable by many Oxfords residents, since by virtue of their location, they are optimally situated nearby several semi-natural and high-quality greenspaces; Braidburn Valley Park, Hope Triangle Garden, Oxfords Lochan and Colinton Mains Park, connected by the Braid Burn (see Figures 2, 3, 4 and 5).

All qualify as NbS because they are high quality and biodiverse spaces which foster and facilitate multiple physical and mental health benefits. It could be perceived that these are readily accessible for the community. However, a neighbourhood's proximity to parks does not automatically correlate to their frequent access (Boyd et al., 2018), or doing so in a way that produces health benefits (Lin et al., 2014).

Socio-cultural barriers to greenspace access are common in 'low-income' areas (Mitchell and Popham, 2008) and explain why some residents do not access their local greenspaces as often as they should. It is important to note that not all of the following socio-cultural barriers will

be experienced by Oxfords' residents, and some will be more common than others. They include:

- Limited awareness of opportunities to visit greenspace
- Lack of experience and confidence in being in a natural setting
- Lack of time
- Multiple, competing time pressures and interests
- Difficulties of accessibility if limited mobility/disabled
- Being out in a natural setting is not part of social expectations
- Feeling unwelcome or out of place
- Fear of bullying or presence of dogs
- Differences in the way the Oxfords community perceives greenspace as a contributing factor to health
- Negative perceptions of safety; risk of antisocial behaviour, vandalism, litter, poor maintenance or lack of lighting

(from Public Health England, 2021)



Figure 2 – *Braidburn Valley Park*



Figure 3 – *Triangle Community Garden*



Figure 4 - *Oxgangs Lochan*



Figure 5 - *Colinton Mains Park*

Community Recommendations

Interaction with greenspaces needs to be increased and achieved in new and more meaningful ways by a greater percentage of Oxgangs' residents, in order to achieve a transformative impact on their health outcomes and life quality (Ehnert et al., 2018).

In order to achieve this, I set out the following three community recommendations whereby local community actors and stakeholders can work together to implement and promote these health-enhancing nature-based initiatives over a long-term basis.

Recommendation 1 - Nature Prescriptions

Nature prescriptions are activities that are designed to help people connect with nature in personal, emotional and meaningful ways, in order to overcome or mitigate mental or physical health problems that typically stem from sedentary and indoor lifestyles (RSPB, 2018).

A leaflet and a calendar of nature-based activities (see Figures 6, 7 and 8) were developed by the NHS Scotland and the RSPB to signpost people to simple ways of connecting with nature that are specific to their local community, the urban context and season. Ideas include finding a favourite place in nature, listening to nearby birdsong, noticing the beauty of the surrounding landscape, getting to know a neighbourhood tree or helping local wildlife thrive (RSPB, 2018). Crucially, activities are accessible for all ages and mobility levels, flexible and free.

Its success in NHS Shetland resulted in its rolling out within 5 health-authority areas within Edinburgh by the Edinburgh and Lothians Health Foundation. Oxcgangs' proximity to many high-quality greenspaces positions it strongly as an area in which to implement the programme by the local Allermuir and Craiglockhart Health Centres.


They facilitate and encourage new ways for people to understand, engage and "notice" nature in a deeper and beneficial way (National Trust, 2021), which is vital for achieving health outcomes since the depth, length and type of experience matters greatly in determining true "connections" with nature and being able to obtain the array of physical and mental health benefits it plays host to (Myers, 2020).

It is important to point out here that nature prescriptions are a hybrid solution; they are geared toward the community, but inevitably include institutional actors (such as the NHS) for their implementation. Nonetheless, by virtue of being recommended by health professionals, nature prescriptions offer a legitimised consent pathway towards forms and frequencies of nature-engagement, which could be useful for individuals who may not have previously considered their take-up, especially in relation to overcoming personal health ailments.

In Oxfords, nature-prescriptions calendars and leaflets can be printed and produced in multiple languages and formats to be more widely accessible for people with English as a second language or disabilities, and be widely distributed in local schools and community centres to enable their access by a wider pool of residents, so as to not require a pre-existing health condition for their take-up, or ensure health resources are not gate-kept by formal health institutions.

Community centres could facilitate regular drop-in support groups where participants can meet and share experiences, ideas and recommendations, hold each other accountable and foster a collaborative element to what are often individual activities, to further encourage and sustain their take-up. Groups can be split by demographics or shared interests.

Tune into nature...



Some ideas to get connected:

- Find your "sit spot" – a favourite place in nature to rest and just be. Visit often and get to know the local wildlife.
- Open your window and listen to the sound of rain.
- Smell the fragrance of yellow gorse blossoms.
- Visit Edinburgh's Seaside and touch the sea.
- Look for the first star appearing in the night sky.
- Get to know a city tree and notice how it changes through the seasons.
- Notice three good things in nature. How do you feel as you bring these to mind?
- Watch crows play.
- Follow the journey of a leaf floating downstream.
- Discover a green space in the city that you've never been to before.
- Appreciate a cloud.
- Walk barefoot in the grass. What do you feel underfoot?
- Volunteer at a community garden or clean up.
- Listen out for five curious sounds in nature. How does your body respond as you listen?
- Have lunch in a local park. Watch birds foraging for their lunch.
- Head to your favourite hilltop and take in the sunrise or sunset over the city.
- Give nature a home in your garden. Maybe plant wildflowers for bees and butterflies. Visit rspb.org.uk for more ideas.

The full calendar of nature prescription activities is available at participating Health Centres.

"Nature can be seen as a great outpatient department whose therapeutic value is yet to be fully realised."

Dr William Bird

Find a park or natural heritage site near you:
mypark.scot
edinburghoutdoors.org.uk
edinburgh.gov.uk/parks-greenspaces/natural-heritage-sites

Explore Edinburgh's walking paths:
edinburgh.gov.uk/quietroutes

Discover local walking groups:
pathsforall.org.uk
ramblers.org.uk
edinburghleisure.co.uk/ageing-well-walks

Fun nature ideas for families:
rspb.org.uk/fun-and-learning/for-families/family-wild-challenge/

Volunteer to help nature thrive:
edinburgh.gov.uk/friends-edinburgh-greenspace
lcv.org.uk


Directions to nature:
Head to your nearest front door.

Nature Prescriptions is a pilot project designed by RSPB Scotland in collaboration with NHS Lothian and GPs. We welcome and value feedback about your experience.


Contact us
RSPB Scotland, 2 Lochside View, Edinburgh Park, Edinburgh EH12 9DH Tel: 0131 317 4100
Email: natureprescriptions@rspb.org.uk

Cover image by benedek (istockphoto.com); robin and blackbird by RSPB. The RSPB is a registered charity in England and Wales 207076, in Scotland SC037684. 030-0709-19-20

Here is your nature prescription




Working together:

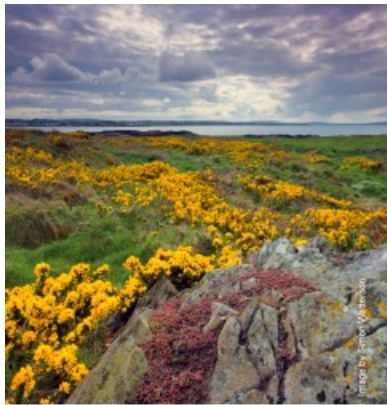


rspb
Scotland

giving nature a home



NHS
Lothian



Nature Prescriptions is a collaboration between RSPB Scotland and NHS Lothian to develop our natural health service. It is inspired by growing evidence that nature makes us healthier and happier.

Connecting with nature can help you:

- Reduce anxiety.
- Improve cardiovascular health.
- Sleep better.
- Improve concentration.
- Improve vitality and mood.
- Increase your life satisfaction and happiness.

Find out more about the health benefits of nature at: hutton.ac.uk/research/projects/green-health and findingnature.org.uk

As with any trip outdoors, please dress for the weather and be aware of your own safety. Take your doctor's advice and work to your ability.

Something in your consultation has prompted your doctor to prescribe you nature:

(Doctor to tick)

- Level 1 nature walks**
Half a mile (10 minutes a day)
- Level 2 nature walks**
1 mile (20 minutes a day)
- Level 3 nature walks**
2 miles (40 minutes a day)
- Level 4 nature walks**
3 miles (1 hour a day)



As you walk, open your senses to the natural world. Perhaps feel the wind, sun or rain, touch a tree, listen to birds or take in the changing scents and colours of the landscape... What do you notice?

"As a kid, being outside in nature was simply normal. As a young person away from home I realised it was something I craved. Now I know it's something I need. Nature makes me feel happier, better and more alive."

Anne McCall, Director, RSPB Scotland

Think about a time when you were young and felt a connection to nature...

Who was there?

What did it feel like?

What does it feel like now as you bring it to mind?

Can you get that same feeling again?

You may discover:

- Sensations in your body.
- Plants and creatures you've never noticed before.
- Smells from your childhood.
- Experiences that your ancestors had.
- The beauty of seasons or phases of the moon.
- Like-minded people to share the outdoors with.
- A sense of wonder.



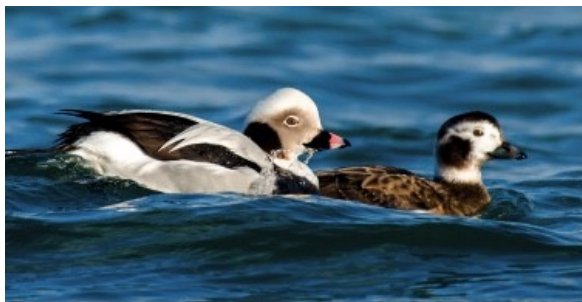
"We often forget that WE ARE NATURE. Nature is not something separate from us. So when we say that we have lost our connection to nature, we've lost our connection to ourselves."

Andy Goldsworthy, sculptor

Figure 6 – RSPB and NHS Lothian Nature Prescriptions Leaflet

| | | | | | | | | | | | |
|---------------|--|---------------|---|---------------|---|---------------|---|---|---|---------------|--|
| Day 1 | Look out of your window (or perhaps at a photograph) and try sketching some wildlife, paying close attention to all the details you may not have noticed before. | Day 2 | Try some winter photography - whether it's a beautiful snowy scene or simply a frosty cobweb, see if you can take a photograph that sums up nature in winter. | Day 3 | Get creative and make some fat cakes for the birds rspb.org.uk/birdcake . Remember not to put out anything containing raisins if you have a dog. | Day 4 | Use Google street view to find a beautiful wild area and spend a moment taking in the view. Perhaps you could try drawing what you see or researching the area? | Day 5 | Take a moment to listen out for robins. They are one of the only birds to sing in winter and can be heard in both urban and rural areas. | Day 6 | Engage a friend or family member in nature - phone a friend to discuss some of the nature you have seen recently, or plan a video call with a family member. |
| Day 7 | See if you can make a start on some nature-themed art. You could draw, paint, sew, knit, crochet, model - whatever works best for you. See if you can unleash your creativity. | Day 8 | Make a nice, warm drink and take a moment to relax and look out the window - what can you see/hear? | Day 9 | See if you can bake something nature-themed, for example cupcakes decorated with flowers, or animal shaped gingerbread biscuits! #bakeformature | Day 10 | Look up the song of your favourite bird and take a moment to listen to it carefully. See if you can remember it and try to recognise it on any future walks. | Day 11 | Time to marvel at nature's best bits! See if you can find a nature documentary to watch and take some time to relax. You can't beat a bit of David Attenborough. | Day 12 | Take a moment to notice the weather outside. Perhaps think about what wildlife might enjoy this weather, or how it might affect them? |
| Day 13 | Take some time to work on your nature-themed art project. | Day 14 | Take a moment to re-visit a wonderful memory involving nature. See if you can immerse yourself in this memory, enjoying all the feelings associated with it. | Day 15 | Wrap up warm and go on a frosty winter walk. Can you spot any key signs of winter, such as berries, snowdrops and robins? | Day 16 | See if you can come up with a wildlife-related word for every letter of the alphabet. You could even try picking a category, for example birds, flowers, or British wildlife. | Day 17 | Looking forward to the spring, think about what plants you might like to grow and make a plan. If you don't have a garden, focus on indoor potted plants and herbs instead. | Day 18 | Take 5 minutes to listen to RSPB Birdsong Radio and immerse yourself in the sounds of nature. |
| Day 19 | Start a nature journal and write down one thing each day relating to nature. This could be a fun fact, something you've spotted, or something you're hoping to see. | Day 20 | Take some more time to work on your nature-themed art project. | Day 21 | Notice the changing light of a sunrise at the start of the day, or the soft dimming of light at sunset. | Day 22 | Take a moment to be mindful. Find a natural soundscape online (perhaps the sound of rain, the sea or woodlands), close your eyes and go on a nature journey. | Day 23 | List all the different things you enjoy most about wintertime, for example things you see, hear, smell and touch. | Day 24 | Notice the first star appearing in the night sky. |
| Day 25 | Go on a walk or look out of your window and see if you can see any signs of nature, for example fallen feathers, prints, or fur. Try to figure out what might have left them! | Day 26 | Spend 10 minutes looking at a wildlife webcam and see what you can spot. | Day 27 | Look for some fascinating animal facts online and get lost in the wonders of nature. | Day 28 | Open a window and experience the fresh air mindfully - feel it on your face, skin and hair. Now take a slow, deep breath. | <p>Connecting to nature</p> <p>Some of these ideas have been inspired by our Nature Prescriptions project in Shetland, and our pilot project in Edinburgh, rspb.org.uk/naturesremedy. For more ideas visit www.rspb.org.uk and don't forget to take part in our annual Big Garden Birdwatch 29-31 January 2021</p> | | | |

Figure 7 – RSPB’s Winter Edition of ways to connect to nature



March

- Welcome the oystercatchers and other waders home with an outdoor celebration of some kind
- Provide a nestbox and nesting materials for birds (avoid wool or plastic stuffing – dog hair is good, horsehair found on fences is even better!)
- Be inspired to experience some sights and sounds from Rhoda Bulter’s poem “Fladdabister”
- Play like an eight year-old! Why not build a den or get together with friends and play the games you used to play outside?
- Join a club that goes outside. Search for Shetland clubs online
- Borrow a dog and take it for a walk
- Make pictures on a beach using natural materials like waar (seaweed), sand and rock – leave it for the elements to take away
- Stand looking over the Loch of Belmont in Unst and listen to the pre-migratory courtship of calloos (long-tailed ducks) before they move north to their tundra breeding grounds.



April

- Touch the sea
- Find a bud on a tree... feel the texture
- Turn over some soil and plant some flowering plants.
- Take a wader minute – step outside and hear the call of a whaup (curlew), lapwing or redshank
- Spot the first sten-shakkers (wheatears) returning to Shetland after wintering south of the Sahara
- Make a bug hotel (see rspb.org.uk for ideas)
- Un-litter... a little and save a life. Take part in Da Voar Redd Up
- Take the coastal route to the Broch of Burreland – watch for the “wheel” of a neesik (harbour porpoise) in Mousa Sound
- Visit the old haaf station at Fethaland, keeping an eye open for purple saxifrage on the way
- Clouds are often described as wispy (cirrus), heaped (cumulus) and layered (stratus). What clouds are in the sky today?

Figure 8 – March and April examples of seasonal ways to be prescribed nature

Recommendation 2 - Community Gardening

Oxgangs and Triangle Community Centres are hubs of holistic group and individually focused activities that are centred on exercise, cooking, socialising and creative activities. These are examples of vital community and social infrastructure provision that enhance Oxgangs’ residents’ social and cultural capital (Seyfang and Smith, 2007).

These centres are thus fantastically suited to implementing a nature-based dimension to the activities they already run to reinforce their health benefits and connect nature with locally defined interests to help embed increased greenspace access within participants’ everyday

lives (Jones et al., 2013). Framing activities in terms of fun, leisure, creativity and socialising instead of mental and physical illness prevention can contribute to their appeal (Rankin et al., 2006).

‘Facilitated access’, such as organised transport to the Oxfams or Triangle Community Centres, followed by a supported led activity, could be successful in reaching underrepresented groups, such as those with disabilities, whose day-to-day mobility may disproportionately increase the actual or perceived barriers they face in reaching their local community centres and greenspaces.

Horticulture in the Triangle Community Garden particularly promotes social inclusion and community-building (Diamant and Waterhouse, 2010). Gardening imparts multiple mental and physical well-being benefits to practitioners, usually ascribed to being out in the fresh air, exercise, doing something meaningful and mindful, and doing so alongside others (Sempik, 2010), hence why it is frequently described as “therapeutic horticulture” (Thomas, 2014).

Vegetable and herb growing sessions are a simple way to enact a care-giving responsibility that produce mental health benefits (Kimmerer, 2012). If combined with cooking classes which use community garden-grown produce that is fresh and healthy, nourishing meals become available that positively impact the community’s nutrition, as well as offer the opportunity to socialise, and learn skills such as food hygiene and budgeting (Spence and van Teijlingen, 2005). Surplus meals can be stored in a Community Fridge for other residents.

Activities could expand from vegetable growing to sowing flowers, maintaining wildlife habitats, woodcraft or pottery, or educational and themed activities such as “pollinator-

friendly” workshops that incorporate useful and infrastructural elements such as composting workshops or building bee towers out of recycling waste, ideas which can expand to people’s own gardens and further enhance social cohesion (Seyfang and Smith, 2007). Activities span the indoors and outdoors so are accessible irrespective of season, weather, age or mobility level.

Construction of sheds, planters, fences or raised beds could be done in partnership with the grassroots youth group ‘YouthBuild Edinburgh’ which teaches construction and employability skills; this could not only help improve the civic amenity of Oxfords’ local community centre, gardens and wider greenspaces for its people, but also enhance their environmental benefit (Pincetl, 2010).

Activities could culminate in an organised themed community open day within Colinton Mains Park, to showcase and highlight the development and potential successes of community garden focused activities, demonstrate their empowering social value and motivate more community members to participate (Morris and O’Brien, 2011).

Recommendation 3 – Conservation Activities

Community centres could collaborate with grassroots organisations and NGOs to implement larger-scale and transformative projects including ecological restoration activities such as tree planting, conservation management and meadow seeding, to enhance the health and ecological benefits that can be derived from Oxfords’ local greenspaces.

Recent research points to the tangible and verifiable health benefits that are derived from restoration activities (Mills et al., 2017; Speldewinde et al., 2015) as a result of its interconnected pathways towards nature engagement, socialising, physical activity and doing something meaningful for one's community (Jennings and Gaither, 2015).

If adapted to the community's interests, integration of expertise and knowledge from external grassroots organisations such as the Edinburgh and Lothians Greenspace Trust could provide unique experiences for residents such as wildlife counts and identification days along the Braid Burn river walkway or Oxfangs Lochan, or mindfulness sessions using accessible and inclusive language within favourite nature spots which can facilitate long-term mental health improvements (Shanahan et al., 2019).

An NbS programme that only considers expert scientist and policy maker voices would not achieve an environmentally just and sustainable project (Pincetl, 2010), but their involvement could assist with fundraising, training or pro-bono consulting, which could be required if new green infrastructure is to be successfully deployed and managed (Pincetl, 2010). When expert knowledge is shared and strengthened by community actors such as "Friends Of" groups or using a "local champion" framework for specific knowledge gatekeeping, a top-down knowledge-power imbalance can be overcome, which supports the longevity and sustainability of more complex and long-term projects (Pretty et al., 2016).

Volunteer work is enjoyable and imparts multiple health benefits and is often an essential component of environmental programmes due to budget constraints (Townsend, 2006). However, voluntary upkeep of project must not become costly or burdensome on local residents. Their benefit must be obvious to the whole community to avoid being seen as

problematic (Pincetl, 2010). Recruiting and delegating responsibility for such tasks can be complicated, so voluntary work uptake cannot be immediately expected (Pincetl, 2010), but could begin with Friends of groups, grassroots organisations, schools, universities and church groups, who can plan, fundraise for and partake in an organised voluntary programme that can fit into their varying routines and schedules.

Participatory Approach and Governance

A participatory approach involving all local community actors is imperative in order to help Oxfangs' residents shift how they perceive their local parks and nature, because they hold influence and play a crucial and public role within the Oxfangs community.

Actors include:

- Oxfangs Community Centre
- Triangle Community Centre and Garden
- Church groups
- Pentland Primary School
- Firrhill High School
- Firrhill Community Council
- Allermuir and Craiglockhart Health Centres
- Friends of Braidburn Valley Park

The World Health Organization (2016) suggests the following steps should be taken by actors, to ensure everyone can access and benefit equally from their local greenspaces:

- Develop a common understanding of equity amongst the stakeholders
- Define the objectives of the greenspace, in terms of equity
- Look at distribution of local benefits and resources, as well as disadvantages and deprivation levels
- Gather and use data on greenspace accessibility to be able to assess any potential changes to equity
- Involve the community from the start, especially during the planning phase and listen to what their needs are, to ensure benefits are realised and help with increasing feelings of ownership and responsibility

Collaboration means fellow actors can engage with as many individuals as possible from a diverse range of backgrounds, demographics and mobility levels, to collectively determine how new forms of nature interactions can be successfully implemented. New habits and ideas can be successfully integrated into individual lifestyles and work alongside residents' multiple and varying commitments, which may require a transition to an entirely new way of thinking and doing (Barr et al., 2011).

Dialogue and communication is key, to ensure everyone remains on the same page and that the community is consulted with and supported throughout the planning and implementation stages, remain proactively involved, their ideas and needs are listened to, and that any issues are resolved as soon as possible (Berkman, 2000). This can help avoid social conflicts about how local greenspaces are used and by which community groups in future (World Health Organisation, 2016).

Collective strategizing, consulting, organising, planning and implementation of initiatives on a trial-and-error basis to measure their effectiveness, enjoyability, accessibility, longevity, and sustainability for residents across social, economic and environmental dimensions, will ensure long-term and tangible progress is made (Pincetl, 2010) in respect to overcoming unequal and negative health outcomes.

Actors are the bridge between the community and external information, organisations and charities who can assist with innovation and implementing change. By partnering and collaborating across knowledge bases and specific community relationships, competencies and capacities can be shared (Horsford and Sampson, 2014) which can ensure appropriate expertise is relayed to community group leaders who can then transfer this to the community. Interdisciplinary communication between stakeholders also enables partnership and lobbying power for purposes such as pooling resources and applying for capital in the form of grants and bursaries in which to fund new greenspace projects and maintain operation of local nature-based programmes (Enhert et al., 2018).

Diversity and Inclusion

Access to Oxfangs' parks must be understood through an intersectional lens, to ensure that socio-cultural barriers to greenspace access are overcome across all identity intersections, so that their psychological and cultural benefits are attained equally (Jennings and Gaither, 2015). Ethnicity, gender, sexuality and ability are factors which influence the parameters through which Oxfangs' individuals perceive and interact with their greenspaces and fellow community. Approaching this within the community can be facilitated by organisations such as Equality Scotland (<http://www.equalityscotland.com/>).

Council

The City of Edinburgh Council play an important role in the funding of and ensuring installation and maintenance of signage, lighting, walkways and transport routes (Lovell et al., 2020). However, it is essential that approaches towards increased nature engagement remain led by the community, to avoid vulnerability such as during periods of austerity and budget cuts (Pincetl, 2010), or risking ‘green gentrification’ if greenspace improvements are made which prioritise aesthetics and “liveability” over socio-cultural priorities (Cole et al., 2017).

Next Steps

Development of a collective and cohesive outcome plan is a useful way to begin action and implementation of a comprehensive greenspace-access strategy for the Oxfangs community and affect change (Staples, 2004). This can begin with regular meetings and community consultations within a community centre that involves all actors, to begin the participatory process towards addressing and mitigating the more negative health outcomes Oxfangs residents experience. A unique portfolio of desired outcomes and timescales can be created by each actor, who will have unique interests and understandings of community needs.

Each actor can contribute and collaborate on specific targets, goals and ideas. Future benefits, methods of use and potential problems can be identified and planned for, with a contingency plan created in case of issues such as funding cuts, volunteer and labour shortages, activity

success/unpopularity, or weather disruptions. Stakeholder-specific responsibilities and action points ensure each actor engages with activities they are best suited to, motivated by, and most relevant to the community groups they are involved with on a day-to-day basis, who can create affordable goals that fall in line with their budgets, that can be pooled or remain separate. Areas of overlap and cross-overs of knowledge, labour and funding can be identified to develop the scale and ambition of some projects if desired.

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