



Our Natural Health Service

The role of the natural environment
in maintaining healthy lives

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View over London from Richmond Hill

We spend around £110 billion each year on healthcare in the UK, equal to 8.5 per cent of all income. Through advances in medicine we are living longer and successfully treating more and more diseases. Yet, these advances are not being enjoyed equally. Over the past 10 years, the gap between the healthiest members of society and the least healthy has increased. And in the same period, the population has also become less active and more overweight.

The result has been an inexorable rise in what can be described as diseases of 21st Century living - obesity, diabetes and depression. The Department of Health has warned that nine out

of ten adults could be overweight or obese by 2050 if we carry on as we are. Around 2.5 million people now suffer from diabetes, and this is predicted to increase to 4 million by 2025.

In the battle to confront these and other diseases a great national resource is being vastly underused. England's natural green space - our public parks, woodlands, countryside and even our tree lined streets, provides an opportunity to improve health and reduce rates of 21st Century diseases. Used in the right way, it represents our Natural Health Service: a treatment which is cost effective and free at the point of delivery.

Sixty years ago the National Health Service was founded on two principles: that comprehensive healthcare should be available to all; and that it should be free at the point of delivery. Today, in order to reap the benefits that the natural environment can provide for our health we need to uphold two new principles. Firstly, that good quality green space needs to be equally available to everyone. And secondly that health professionals should embrace the use of the natural environment in preventing diseases of 21st Century living.

At a time when the government's Change4Life initiative has signalled the biggest public health campaign for a generation, Natural England is setting out the contribution that the natural environment can make in maintaining healthy lives. We are highlighting new research which

shows that high quality green space not only makes us more healthy, it can save lives; we are announcing a quadrupling of our health walks programme; and we are calling for action to ensure that the patchwork of parks, woodlands, countryside and wild places that hold such a strong place in the heart of the nation, can serve as our Natural Health Service for generations to come.



Dr Helen Phillips, Chief Executive,
Natural England

Our Natural Health Service

What we want:

- To increase the number of households that are within five minutes walk of an area of green space of at least two hectares.
- To enable every GP or community nurse to be able to signpost patients to an approved health walk or outdoor activity programme.

The evidence

The notion that getting outside in the fresh air is good for you is common sense to most people. The direct link between health and the natural environment has been acknowledged and studied since at least the Victorian era. In 1839, the Registrar of Births, Deaths and Marriages for Bethnal Green, wrote in his annual report: "A park in the East End of London would probably diminish the annual deaths by several thousands.... and add several years to the lives of the entire population". Queen Victoria agreed and as a result Victoria Park was opened in 1850.

Applying the thinking of this Victorian registrar in the 21st Century, a team of researchers from the Universities of Bristol and East Anglia² recently analysed the connection between green space and public health in the city of Bristol. The study, supported by Natural England, compared extensive data from a quality of life study against a detailed inventory of parks, urban woodlands, footpaths and other green sites in the city. The results showed:

- That people living closer to green spaces were more physically active, and were less likely to be overweight or obese.
- These trends were apparent independent of peoples' income or social group.

- The most significant findings showed that people who lived furthest from public parks were 27 per cent more likely to be overweight or obese compared to people who lived closest to parks.

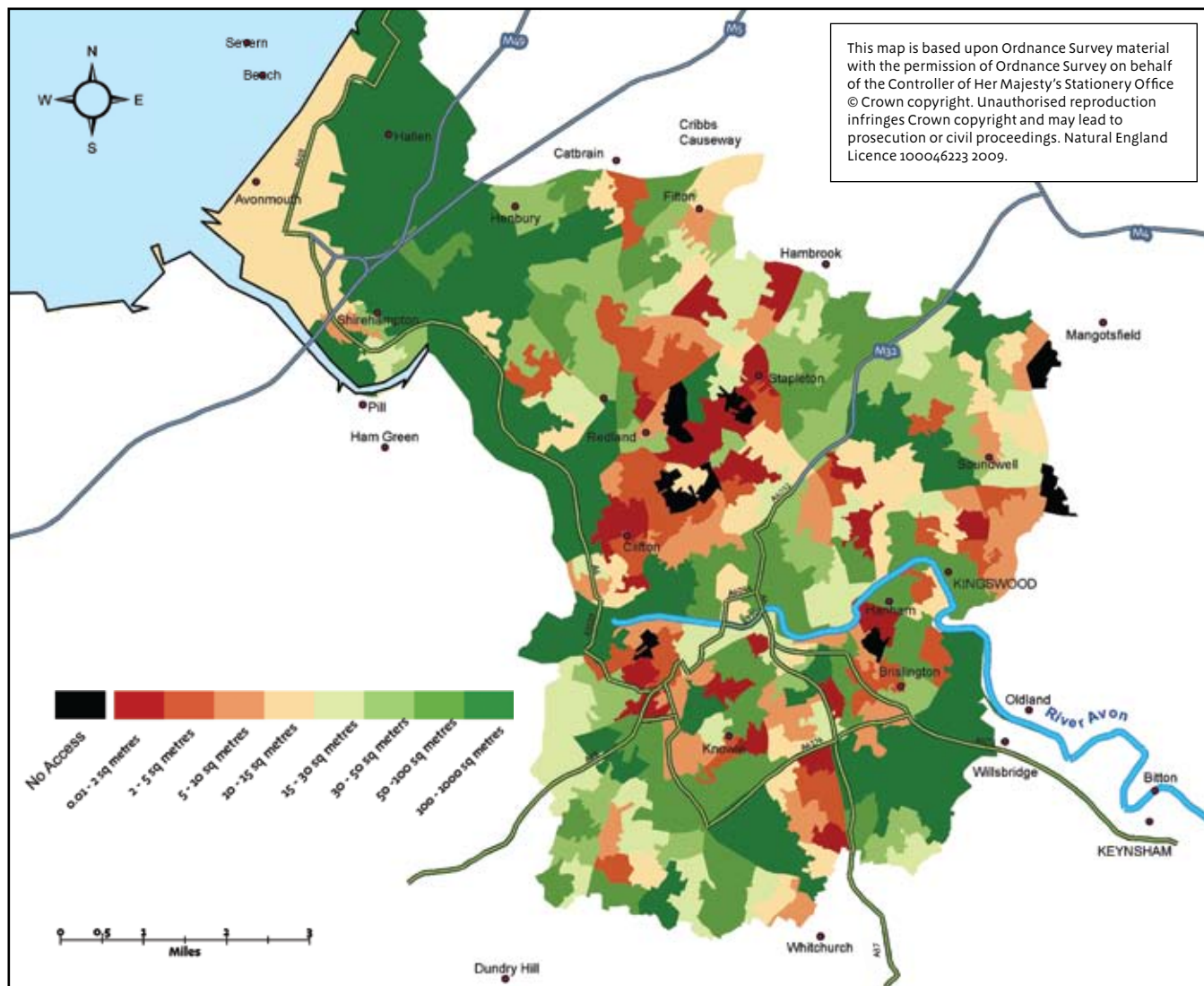
Another recent study published by the American Journal of Public Health in 2008³, looked at the impact of the provision of good quality green space on child development:

- Researchers found that the greater opportunities for exercise provided by close proximity to a park reduced weight gain in teenagers by five kilograms over a two year period.

These findings were echoed in a study completed in 2008 by the University of Glasgow³ which found that, for England as a whole, people living closer to green space had lower death rates and less heart disease.

A significant point about all these studies is that they showed that improvements in health associated with the provision of green space occurred irrespective of individuals' social group or economic status.

- The Glasgow study concluded that amongst lower income groups, 1,300 extra deaths occurred each year in areas where the provision of green space was poor.



Green space provision in the city of Bristol

The map shows how the provision of green space differs from one neighbourhood to the next. The dark green areas represent places with more than 100 square metres of accessible green space per person, compared to the dark brown areas which have less than 2 square metres. Recent research from Bristol University confirms that lower levels of physical activity and high rates of obesity are associated with neighbourhoods with poor green space provision.



Closing the health gap

Inequalities in health have increased in recent years, as witnessed by a widening gap between the average life expectancy of the poorest sections of society compared to the national average. Over the past 10 years, this gap has increased by 2 per cent for men and 11 per cent for women. Over the same period, the gap in infant mortality has increased by 4 per cent⁴. Reversing these trends is now a top government priority.

In parts of the country inequalities in health are revealed starkly. In the London Borough of Brent for example, male life expectancy decreases at each Tube station as the Bakerloo line heads into London. So residents of South Kenton can expect to enjoy an extra 10 years of life compared to people in Harlesden⁵. Whilst socio-economic factors are the principal cause of inequalities in life expectancy, the Lancet study proved that the provision of green space is an important contributory factor. In the case of Brent, the southern part of the borough is designated as an area deficient in green space, where most people live further than 1.2 km from a district park⁶.



Health inequalities: travelling into London through the Borough of Brent male life expectancy decreases by two years with every tube stop.

- Brent borough boundary
-  Bakerloo line station
-  Area of green space deficiency



Graham Watson suffered from several heart attacks and minor strokes, but managed to get back on his feet with the help of his wife who encouraged him to join a health walk group in Bedfordshire.

“There are usually around 15 of us. We set off at 10.30am every Tuesday and a walk anywhere within a ten-mile radius of the doctor’s surgery which helped set up the group. One of the guys that comes along is asthmatic and couldn’t get up the hill when he first joined. A few weeks later he was nearly running up it. Walking helped me and I knew it would help others.”

The nature of good health

While the connection between better health and access to green space has been established, the nature of this relationship is less understood.

The simple explanation is that people are more active if they live within an attractive natural environment, whether through activities such as gardening, jogging, cycling, family outings to a park, or simply going for a walk.

- An influential US study concluded that the risk of heart disease in men is halved by walking 1.5 miles a day.⁷
- And in England, the Chief Medical Officer reports that walking between 6 and 12 miles a week can reduce the risk of premature death by 20 to 30 per cent⁸.

Another positive impact on health from contact with nature is the restorative and stress reducing benefit it gives.

- Stress is known to increase hormones such as cortisol which can contribute to weight gain. Chronic stress has also been linked to heart disease, depression and diabetes⁹.
- The Chief Medical Officer for England states that 'Physical activity is effective in the treatment of clinical depression and can be as successful as psychotherapy or medication'¹⁰.
- And the National Institute of Health and Clinical Excellence (NICE) recommends that patients with mild depression follow a structured and supervised exercise programme, including led health walks, of up to three sessions per week¹¹.

Barbara Lobley joined the Walk Buddy scheme in Lincolnshire after recovering from a slipped disk. She had been overweight before her accident, but being immobile for 12 weeks made her condition worse. Over a period of six weeks, Barbara steadily increased the number of steps she could take and then joined a local health walk group.

"This scheme has given me an opportunity to lead a more active life and meet new people". Combined with a much healthier diet, the Walk Buddy programme has helped Barbara lose an incredible nine stone.



The value of a green prescription

Increasing levels of activity through outdoor exercise not only makes sense on medical grounds, it could also help to ease the pressure on rising health service budgets.

For example, the Walking the Way to Health scheme run by Natural England will help to get over 200,000 people out walking over the next three years. With a direct cost of around £11 million, the programme will save £81 million in the costs of treating conditions such as heart disease, stroke and diabetes¹². This represents a saving of £7.18p in health care costs for every £1 invested.

Increasing the provision of quality green space would have an equally significant impact on health care expenditure. The results of the recent study of health and green space in Bristol showed that where people have good access to formal green space they are 24 per cent more likely to be physically active. If this effect was universal and the population of England was afforded equitable access to quality green space it is estimated that the saving to the health service would be in the order of £2.1 billion per year¹³. Equivalent to 2.3 per cent of annual NHS expenditure.

Anna Kelly joined a local health walk in Tavistock while recovering from breast cancer. “Months of radiotherapy had left me feeling tired and low and the walking gave me a real boost. The added bonus was the wonderful camaraderie I found during our weekly walk.”

After recovering from her illness Anna undertook training to be a walk leader and is now inspiring others to get walking back to health. “I’m so glad the health walks were started, after such a long time in hospital, just being outside surrounded by nature was the best therapy I could get.”



- People who lived furthest from public parks were 27 per cent more likely to be overweight or obese.
- Children able to play in natural green space gained 2.5 kilos less per year than children who didn't have such opportunities.
- 1,300 extra deaths occur each year in the UK amongst lower income groups in areas where the provision of green space is poor.
- For every £1 spend on establishing healthy walking schemes the NHS could save £7.18p in the cost of treating conditions such as heart disease, stroke and diabetes.
- If every household in England were provided with good access to quality green space it could save an estimated £2.1 billion in health care costs.

A prescription for a Natural Health Service

1. Increase the number of households that are within five minutes walk of an area of green space of at least two hectares.

In order to reap the benefits of green space, there first needs to be enough of it available. Natural England has established the Access to Natural Green Space Standard (ANGST), a benchmark which sets the ideal amount of green space which every household should be able to use. The standard aims to ensure that everyone lives within 300 metres of an area of natural green space of at least two hectares - roughly the size of two football pitches. A recent study in Bristol revealed that only 55 per cent of people in the city enjoyed this much local green space.

ANGST also sets a benchmark for more remote access to natural areas, including stipulating that all homes should be within 10 km of a green space site of 500 hectares or more.

What we are doing:

- **Natural England believes that the provision of new and improved parks, woodlands and other green spaces is essential to improve the health of people today and in the future. We will work with local authorities, planners, developers, and the National Health Service to achieve this goal.**
- **Natural England is encouraging members of the public to measure access to their nearest area of green space by completing our three step, online questionnaire. Visit: www.naturalengland.org.uk**



A local health walk scheme in Brent, North East London

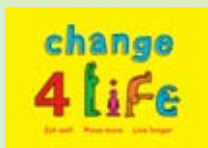
2. Every GP or community nurse should have the opportunity to signpost patients to an approved health walk or outdoor activity programme. To achieve this we want all Primary Care Trusts and Local Authorities to develop targets for the provision of such services within Local Area Agreements.

Recent guidance by the National Institute for Health and Clinical Excellence (NICE) is helping to encourage more GPs and Community Nurses to refer patients to outdoor activity sessions to improve their wellbeing. An Ipsos/MORI poll carried out for Natural England in 2008 revealed that 94 per cent of the population thought this to be a good idea. And a survey in March 2009 showed that walking in natural spaces, such as parks or woodlands, was considered the most convenient and attractive form of exercise by 88 per cent of respondents.

Natural England's Walking the Way to Health programme provides led walks through a network of more than 500 local groups. Other schemes, such as the British Trust for Conservation Volunteers Green Gym, are helping people improve their health through participation in practical conservation work.

What we are doing:

- **From 2009, Natural England will be working in partnership with the Department of Health to implement a 12 million pound investment programme that aims to encourage more than 200,000 people to take up health walking over the next three years.**
- **Natural England is working with health care providers and NGO's to expand the provision of outdoor exercise programmes, including the expansion of Green Exercise and Green Gym projects and the launch of the Blue Gym, a scheme encouraging people to get involved in healthy activity on, near or under water.**
- **Natural England is working with the Peninsula Medical School to develop a research programme on the link between human health and the natural environment.**



Natural England supports the Change4Life movement. In order to maintain a healthy weight we need to both eat well and move more. Many families are making changes that will help them to live healthier and longer lives. For more information about eating well and moving more search Change4Life or call 0300 123 4567.

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Natural England is here to conserve and enhance the natural environment, for its intrinsic value, the wellbeing and enjoyment of people and the economic prosperity that it brings.

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