Natural solutions for tackling health inequalities

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Image: ‘View over London from Richmond Hill’ © Anne Purkiss.

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Foreword

Recognising the role of the natural environment as a primary determinant of health is in many ways the foundation of modern public health. Good health and wellbeing is not solely the absence of illness, the role of the environment we live in is hugely important in shaping our lives and, consequently, our health, so this report is a timely and very welcome contribution to increasing awareness of this amongst practitioners and policy makers, both in the health and environment sectors. To this end, I would strongly encourage organisations at the local level to develop close working links between their Health and Wellbeing Board and Local Nature Partnership as an excellent way of forging, and implementing a shared understanding of operational priorities and opportunities across the sectors.

This Report helpfully addresses a number of specific health priorities, such as obesity, insufficient levels of physical activity, long term health conditions, mental health (including dementia) and, in acting on these, helps support people to live longer, healthier lives free for as long as possible from chronic disease and disability.

It is particularly pertinent to our own work at Public Health England, as the effects of health inequalities touch upon almost every aspect our work - and not least in tackling childhood obesity. Here health inequalities are especially evident, with children in the most deprived communities having rates of excess weight and obesity twice that of the most affluent. We know that the majority of children are not active enough to benefit their health – only 16% of girls and 21% of boys (aged 5-15 years, HSE 2012) are meeting the Chief Medical Officer's recommendation of 60 active minutes a day.

Getting children more active is no simple task and requires a range of innovative solutions. The natural environment offers children a variety of places, close to where they live, that gives them the space to be active through play, exploration and discovery of the natural world, during the school day and with their families and friends outside the school day. So having access to high quality, local natural environments is critically important to promoting physical health and wellbeing in children, and adults. Together, through this Report, we have the opportunity to look afresh at what have hitherto appeared to be intractable public health challenges, and share our knowledge and experience of what works so that we can make a real difference to the quality of people's lives.

Duncan Selbie
(Chief Executive Designate of Public Health England)

Executive summary

Background:

Health inequalities are the result of widespread and systematic social and economic inequalities. So close is the relationship between social and economic factors and health, that there is a clear social-class gradient in life expectancy and health outcomes. The relationship between neighbourhood income and health outcomes in England shows a relationship across the whole income spectrum so that everyone below the very wealthiest is likely to suffer from some degree of unnecessary health inequality, as shown in Figure 1 below.[1]

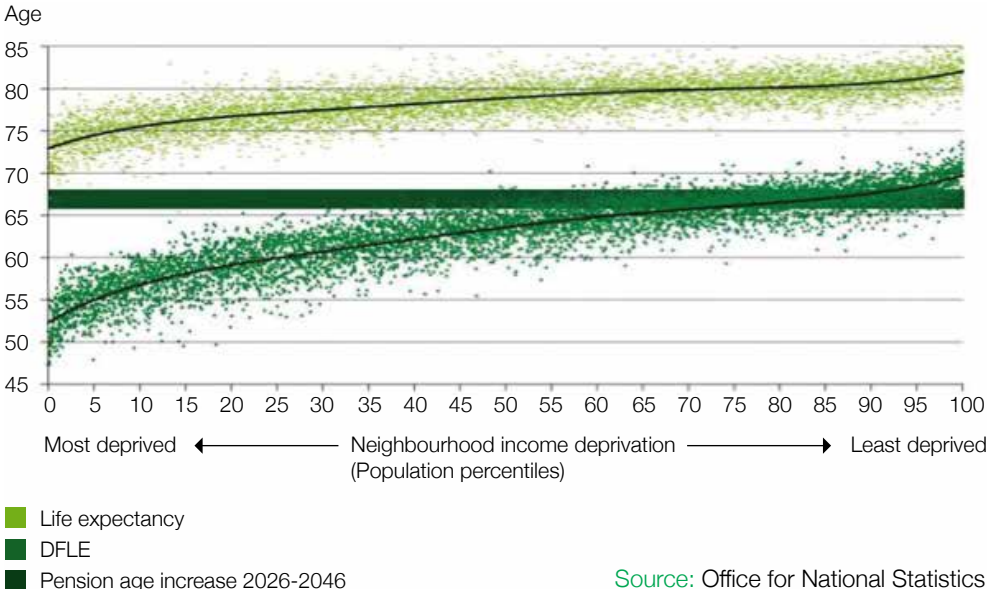


Figure 1. Life expectancy and disability-free life expectancy (DFLE) at birth, persons by neighbourhood income level, England, 1999–2003

Health inequality in England is estimated to cost up to £70 billion each year. Despite investment in addressing health inequalities, the health divide has continued to widen and the gradient to steepen.[2]

Health and the natural environment are closely linked. Regular use of good quality natural environments improves health and well-being for everyone, including many who are suffering from ill-health. However, there are clear inequalities in access and use of natural environments. People living in the most deprived areas are 10 times less likely to live in the greenest areas. Indeed the most affluent 20% of wards in England have 5 times the amount of parks or general green space than the most deprived 10% of wards. So, people who live in the wealthier neighbourhoods are more likely to live in close

proximity to good quality green spaces experiencing better health outcomes and living longer.

Overall better health is related to access to green space regardless of socio-economic status and income-related inequality in health is moderated by exposure to green space. Research also demonstrates that disadvantaged people who live in areas with large amounts of green space may be more likely to use their local green spaces and be more physically active, thus experiencing better health outcomes than those of a similar level of disadvantage for whom such easy access to good quality green space is much less.[3]

There is some research showing that interventions using the natural environment to improve health can deliver costs savings for health and related services[4] and improve physical and mental health outcomes.[5 6] So, increasing the amount and quality of green space can be part of a low cost package to address health inequalities, improve health outcomes and deliver other benefits

This report sets out:

1. The evidence on health inequalities and the contribution which the natural environment can make to improving health outcomes
2. The challenges and priorities for practitioners, academics and policy makers from across the health and environment sectors, at both national and local levels, to better utilise the natural environment to help tackle health inequality.
3. Recommendations for future, collaborative action by the health and environment sectors

Evidence linking health and the natural environment is presented, with a specific focus on four priority areas:

1. Tackling childhood obesity and physical (in)activity
2. Improving quality of life when living with long term conditions
3. Preventative solutions to premature mortality – preventing premature death from Cardiovascular Disease, diabetes, stroke for instance.
4. Mental health including dementia

The four priorities for action are to:

1. Improve co-ordination and integration of delivery and ensure interventions are user-led

The cross-sector collaborations needed to achieve prioritisation of the natural environment to support delivery of health outcomes at both national and local levels are not working effectively, are often fragmented, and as a consequence resources can be wasted. Opportunities for aligning delivery and achieving win-wins through shared strategies between sectors are often missed. There is a need for far greater communication and collaboration between the natural

environment and health sectors, which should also make it easier for the public to identify a coherent 'offer' around the natural environment.

The move of public health responsibilities to local authorities and the establishment of Health and Well-Being Boards (HWBBs) and Clinical Commissioning Groups (CCGs) should enable greater local collaborative action and commissioning. There is already Government commitment to strengthening the collaboration between Local Nature Partnerships and HWBBs. The natural environment sector could assist HWBBs and CCGs to fulfil their new duties in reducing health inequalities, improving health and well-being outcomes and meeting obligations under the Social Value Act.

Greater integration between the education and natural environment sectors is urgently required to help address health inequalities, tackle childhood obesity and improve children's well-being and mental health. Building greater awareness and use of the natural environment into school learning practices is a powerful motivator for children and young people to be more physically active beyond more traditional sporting activities.

Poor quality facilities – or a lack of them – are often cited as reasons for not visiting natural environments. Creating a dialogue between the people who manage green spaces, local authorities and the community to establish what the public, particularly those not using green spaces, want from these spaces is an essential precursor to increasing greater use and improving access. Engaging communities is particularly necessary for socially excluded groups, who are at greater risk of poor health, have less access to, and use green spaces less.[7]

2. Build a stronger evidence base to ensure programmes are evidence-led

The natural environment and health sectors need to work together to co-ordinate the production of high quality evidence that demonstrates the impact of the natural environment on health and health inequalities.

While the environment sector has tested a wide range of innovative interventions, there is currently no standard for data collection and evaluation across the sector. Comparisons of the efficacy of programmes are therefore difficult to make. Health commissioners generally require standardised information to inform the commissioning process.

In order to demonstrate impact effectively, demonstrate relationships between the natural environment and health equity, and secure support from health commissioners, the evidence base requires improvement in a number of areas including:

- Collection of longitudinal and quantitative data
- Creation of standardised measures and assessments of interventions
- Greater use of physiological and biochemical indicators such as cortisol, EEG, blood pressure to engage with the health sciences

- Meta-synthesis across evaluation of interventions – both qualitative and quantitative

3. Ensure sustainable delivery of services that use the natural environment

Efforts to reduce inequalities in health in a sustainable and cost-effective manner will be greatly enhanced if the natural environment sector can deliver on its potential as a low-cost solution to improving health outcomes across the socio-economic gradient.

Short-term funding measures rarely last long enough for projects to deliver any real impact, demonstrate sustainability, provide learning for development or enable collection of longitudinal data to establish impact and learning. Programmes should be designed and funded for the long term. Longer-term programmes require funders, commissioners and organisations responsible for the design and implementation of programmes to think more strategically about the duration of projects and programmes, with a focus on ensuring sustainability of action. Funding is a perennial issue for the natural environment sector; without some further investment, the potential of the natural environment to improve health and reduce health inequalities will not be realised.

4. Increase the quality, quantity and use of natural environment spaces that benefit people's health and help prevent ill health

In order to realise the potential of the natural environment to help reduce health inequalities and improve health, it is important to reduce systematic variation in the provision, quality and use of the natural environment and make the most of the health-giving aspects of using natural environments.

Public Health England, Natural England and the Local Government Association are well placed to develop leadership locally and nationally and help prioritise the role of the natural environment in reducing health inequalities. Some of the levers, incentives and funding that are necessary to ensure that natural environments can support health equity can be developed through national leadership. For instance, clear policy ambitions for the provision of green space will help local governments and communities in addressing the limited provision of green space in some areas – a prerequisite for utilising green space to tackle health inequalities.

The potential benefits to health of greater, more effective and more equal use of the natural environment is clear; there is great opportunity. This report sets a challenge and a call to action.

An action plan to take each recommendation forward is being developed by the National Outdoors for All Working Group in conjunction with the relevant organisations.

1. Introduction

1.1. Purpose of the report

This report outlines the potential contribution of the natural environment in reducing health inequalities across England and makes proposals for action at national and local levels and for different sectors. The content is based on written evidence as well as views, ideas and evidence presented at a conference delivered by the National Outdoors for All Working Group in November 2013. *The Natural Solutions for Tackling Inequalities Conference* explored issues relating to inequalities in health and the natural environment. Its purpose was to:

- Set out the evidence underpinning the clinical, social and economic case to improve the natural environment's contribution to tackling health inequalities
- To share the findings from recent community and patient initiatives with conference delegates and explore how these and similar programmes might be expanded to deliver cross-government priorities
- Identify future work and produce practical recommendations to build on best practice, inspire more collaboration and increase the capacity to deliver high quality services to those with the greatest health need across the country.

This report summarises and synthesises the deliberations of the conference and builds on these to provide further evidence and proposals for action.

2. Health inequalities: Background context

Overall health has improved significantly over the last thirty years.[8] An examination of the trends in average life expectancy in England over the last three decades shows a significant increase: from 70.9 years for men and 76.9 years for women in 1981 to 79.6 years for men and 83.3 years for women in 2014.[9] However, improvements have tended to benefit wealthier sections of the population, causing health inequalities to deepen.[10] More effort and resources need to be directed towards reducing health inequalities through addressing inequalities in the social determinants of health – that is, differences in the extent to which the health of individuals or certain groups is impacted by various socio-economic factors (detailed below). The natural environment is an important determinant of health, and as such has great potential to contribute to reducing health inequalities.

2.1. The development of the social determinants of health

The World Health Organisation established the Commission on Social Determinants of Health to support countries and global health partners to address the social, economic, environmental, political and cultural factors leading to ill-health and health inequities across the world. In 2008, the Commission published the report *Closing the Gap in a Generation*, which synthesised the global evidence and made proposals for reducing health inequities.[11] Since then there has been significant activity towards this goal in many countries, including England.

In 2008, the UK Government commissioned the Marmot Review to develop understanding of health inequalities in England and to make proposals for action to reduce them. The final report, *Fair Society Healthy Lives*, was published in 2010. The report identified significant differences in life expectancy and health outcomes across the whole population of England.

Taken from the Marmot Review, Figure 1 depicts life expectancy and disability-free life expectancy (DFLE), a measure of health, for the English population related to neighbourhood income. The graph clearly shows a relationship between neighbourhood income and health outcomes in England – and shows that this relationship exists across the whole income spectrum. Everyone below the very wealthiest is likely to suffer from some degree of health inequality. This 'social gradient' in health is observable to a greater or lesser degree in most countries across the world.

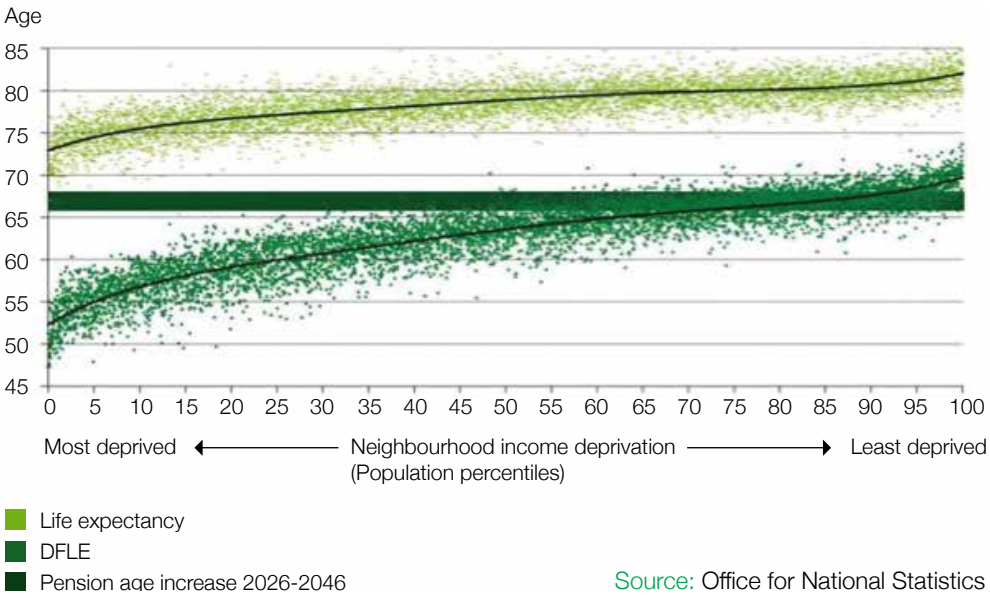


Figure 1. Life expectancy and disability-free life expectancy (DFLE) at birth, persons by neighbourhood income level, England, 1999–2003

The Marmot Review presented a great deal of evidence demonstrating that widespread and persistent health inequalities are a consequence of inequalities in the social determinants of health. These are the social, economic, cultural and political conditions in which we are born, grow, live, work and age, which profoundly impact on health outcomes and life expectancy.

The Review states that reducing health inequalities is principally a matter of fairness and social justice and should be a top-order priority for government. Additionally, reducing health inequalities is important for the economy as they are costly for the national purse as well as for individuals, families and communities.

Cost of inaction

There are significant human, social and financial costs associated with health inequities. In England, as many as 1.3 to 2.5 million extra life years are lost each year due to premature death related to health inequalities.

Furthermore, it is estimated that a number of other costs are incurred every year as a result of inequality-related illness, including productivity losses of £31–33 billion, reduced tax revenue and higher welfare payments of £20–32 billion, and increased treatment costs well in excess of £5 billion. Failure to tackle health inequalities will only increase these costs.[12]

Since the late 1990s, some investment, activity and policies have been developed in England to try to reduce health inequalities and improve the general health of the population. Despite these activities, the health divide has continued to widen and the gradient to steepen.[13] Research indicates that often initiatives to reduce health inequalities fail to make the same impact among people from lower socio-economic groups compared with those from higher socio-economic groups.[14]

2.2. Health inequalities and the environment

Natural and built environments have a significant impact on health; they influence the social gradient in health and therefore have great potential to help to reduce inequalities in health outcomes for the population. There is a significant and robust evidence base linking inequalities in health with environmental factors, much of which is described in the Marmot Review of 2010. One of the Review's key policy recommendations was to improve good quality green spaces, making them available across the social gradient. Evidence presented in the Marmot Review suggests a clear social gradient exists in the quality of neighbourhoods. Living in a deprived neighbourhood increases the chances of living in an area with poor environmental conditions and exposure to social and environmental characteristics that increase health risks, see Figure 2.[15]

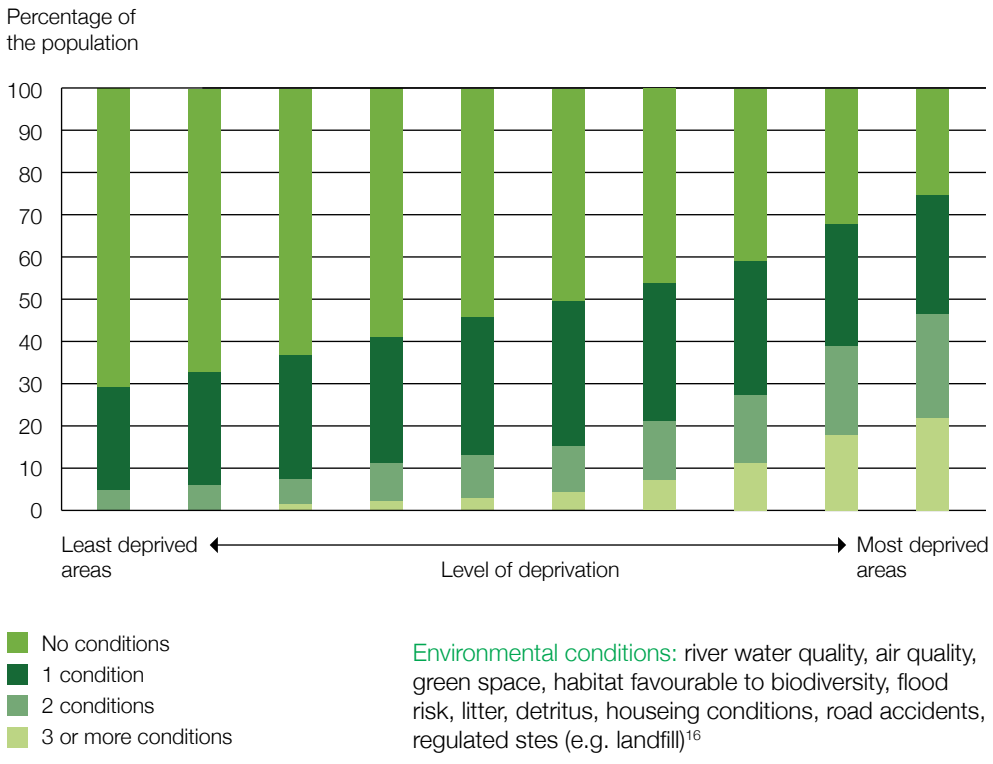


Figure 2: Populations living in area with the least favourable environmental conditions in relative terms, 2001–2006

Research shows there is an association between proximity to green space and health inequalities. The most affluent 20% of wards in England have five times more green space than the most deprived 10% of wards.[17] Similarly, people living in the most deprived neighbourhoods are 10 times less likely to live in the greenest areas compared to people living in the least deprived neighbourhoods.[18] Increasing access to green space and taking action to make public space in deprived areas less threatening, harmful and stressful would mean improvement for those in disadvantaged areas is likely to be proportionately greater than in other areas.

Research examining differences in the frequency of visiting the natural environment between social groups in England found that some groups in the population rarely visit the natural environment.[19] Groups found to visit the natural environment far less frequently than the average for the English population include black, Asian and minority ethnic (BAME) groups, people living in urban deprived areas, people from D and E socio-economic groups, people aged over 65 and people with disabilities. As the evidence presented below will illustrate, many of these groups are likely to benefit the most from engaging with the natural environment.

Importantly, there is evidence showing that deprivation-related health inequalities are smaller for those living in the greenest areas. This means that green space may mitigate some of the negative health impacts of relative poverty.[20] This can be explained in part by research that examined the physical activity of populations across Europe, which found that people living in areas with large amounts of green space were three times more likely to be physically active than people living in areas with little green space.[21] As a result, disadvantaged people who live in areas with large amounts of green space may be more likely to use their local green spaces and be more physically active, thus experiencing better health outcomes than would those of a similar level of disadvantage for whom access to green space is much less.[22]

2.3. What the natural environment can offer

The natural environment has potential to offer cost-effective solutions to address health inequalities and produce positive physical and mental health outcomes across all age groups. For example, analysis of the cost-effectiveness of the Conservation Volunteers' Green Gyms programme, over a four-year period (2005–2009), estimates that the scheme delivered 132 quality adjusted life years (QALYs) at a cost of £4,031 per QALY based on participation in one Green Gym session per week.[23]

Similarly, a cost-benefit analysis of Natural England's Walking for Health Scheme was undertaken for illustrative purposes. Analysis found that the scheme delivered 2,817 QALYs at a cost of £4,008 per QALY. This is well below the National Institute for Health and Care Excellence (NICE) threshold for cost effectiveness of £20,000–£30,000 per year.[24] Furthermore, estimates suggested that the Walking for Health scheme would save the NHS £81 million over three years, beginning in 2009.[25] Savings like these support

arguments for further investment in the Walking for Health scheme, as well as the roll-out of similar services.

The Health Economic Assessment Tool (HEAT) is a useful tool for assisting with economic assessments of the health benefits associated with activities such as walking and cycling. It facilitates evidence-based decision-making by estimating the value of reduced mortality as a result of regular walking and cycling.[26]

An evaluation of the social return on investment of a volunteer-led health walks programme in Glasgow was carried out between April 2011 and March 2012. The programme delivered 59 projects for the general public and specially referred clients, such as hospital in-patients. Investment in the Glasgow Health Walks amounted to £48,705. However, the value of the associated outcomes is estimated to be £384,630, which amounts to a cost: benefit ratio of £8 generated for every £1 invested.[27]

Access to good quality green spaces can provide positive benefits for mental as well as physical well-being.[28] Research has identified trends in reduced hospital admissions for mental illness, the reduction being associated with more green space, even after controlling for levels of deprivation and population density.[29] Additionally, research into the economic implications of Mind's Big Lottery-funded Ecominds scheme, using five case studies, suggests the projects have a positive effect on well-being outcomes while demonstrating economic rewards. For example, analysis of the economic implications of the case study 'Growing Well and Joanne', involving participation in farm-based activities to build confidence and reduce social isolation, estimates that Joanne's involvement with the Growing Well project amounted to £12,799 of potential economic benefit in one year, reducing prescription costs, medical consultation, use of community psychiatric nurse services, and increasing tax revenue to the exchequer as the project assisted her in finding employment through training and career help.[30] Green spaces may also provide health benefits through being linked to better sleep,[31] improved immunity,[32] greater social interaction[33] and physical activity.[34]

3. National priorities for health: The evidence

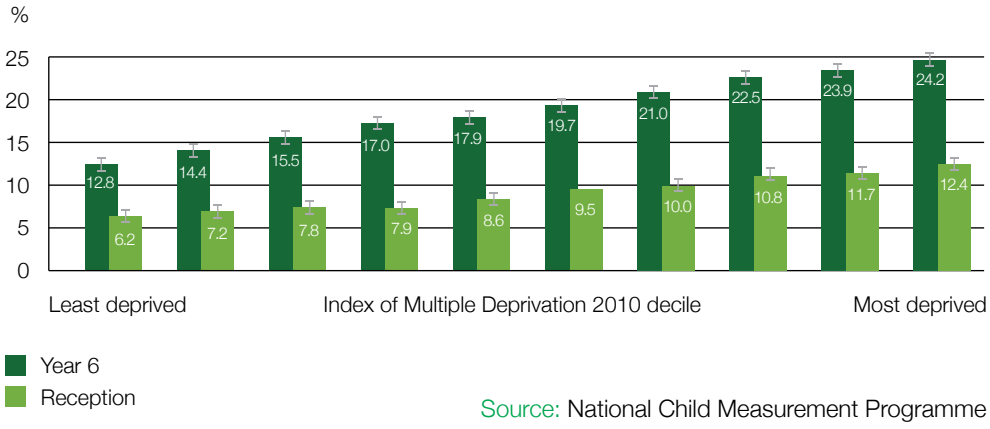
As part of the 2013 conference, evidence was presented on four key national health priorities:

- Childhood obesity and physical inactivity
- Improving quality of life for those living with long-term conditions
- Preventative solutions to premature mortality
- Mental health, including dementia

The evidence presented below illustrates the relationships between these health priorities and access to, and use of, natural environments where clear socio-economic and health inequalities exist.

3.1. Childhood obesity, inequalities and the natural environment

Evidence from the National Child Measurement Programme found that in England 9.3% of 4–5 year olds and 18.9% of 10–11 year olds were obese in 2012/13. In total, as many as one fifth (22.2%) of 4–5 year olds and one third (33.3%) of 10–11 year olds were overweight or obese.[35] The rate of childhood obesity is not equal among the population. Children in the least deprived areas are half as likely to be obese as those in the most deprived decile, at both Reception (4–5 years) and Year 6 (10–11 years) stage. For each increasing level of deprivation, the percentage of obese children also rises.[36]



Source: National Child Measurement Programme

Figure 3. Prevalence of obesity by deprivation decile, 2011/2012

For this chart, the children measured in each school year have been divided into ten groups (deciles) according to the 2010 Index of Multiple Deprivation (IMD) score of where they live. Obesity prevalence figures have been calculated for each group.

Childhood obesity is complex and influenced by a number of interacting genetic and non-genetic factors. Alongside biological factors, environmental factors such as diet, levels of physical activity, country of birth and socio-economic position are likely to have an impact on a child's weight.[37] Figures show that nearly 60% of the variation in obesity prevalence between local authority areas can be explained by the proportion of children living in low-income households.[38] These differences in levels of obesity are likely to lead to significant differences in health outcomes and life expectancy.

Tackling childhood obesity is a priority for public health: the NHS, local authorities, and central government. It is estimated that the cost to the UK economy of people being overweight and obese is £15.8 billion per year.[39] If no action is taken, 60 per cent of men and 50 per cent of women could be obese by 2050.[40] Strategies to tackle obesity need to consider the social, economic and environmental determinants of obesity, and to take into account how these factors can be best addressed to reduce obesity in childhood.

The natural environment is a valuable resource for physical activity and may contribute to reducing obesity levels and health improvements. A systematic review of research examining the association between objectively measured access to green space and physical activity, weight and weight-related health conditions, suggests there is a positive association between green space and obesity-related health outcomes.[41] Evidence shows that children living near green spaces are less likely to experience an increase in body mass index (BMI) over time,[42] while a lack of access to green space can negatively influence exercise levels and lower physical activity in green space,[43] thus increasing BMI and obesity levels.[44]

3.2. Preventative solutions to premature mortality – preventing death from cardiovascular disease, diabetes, stroke and other conditions

In England, the major causes of early death (death before 75) are heart disease, stroke, cancer, lung disease and liver disease. In 2011 premature death accounted for a third of all deaths.[45] It is believed that around two thirds (103,000) of deaths in England among the under-75s are avoidable, and that both targeted and wider action on the social determinants of health can prevent premature mortality.[46]

There are significant disparities in rates of premature mortality. People living in deprived areas are at greater risk of premature mortality, as are smokers, people who drink too much alcohol and those who are overweight or obese. All of these factors are also influenced by disadvantage.[47] The Secretary of State for Health has highlighted premature mortality as a key concern for the health sector, Government and country.[48]

The natural environment can contribute to preventing premature mortality in a number of ways, such as providing space for physical activity. Research

indicates that the amount of green space available in a neighbourhood can lead to increased physical activity levels.[49] Research into the impact of exercise on people suffering from coronary heart disease (CHD) indicates that exercise can reduce the likelihood of dying from heart disease and can lead to moderate improvements in quality of life.[50] Additionally, systematic reviews indicate that exercising outdoors in natural and green spaces can bring about positive effects to health and well-being in addition to the improved health outcomes that are observed during indoor exercise.[51]

3.3. Improving quality of life for those living with long-term conditions

In England, more than 15 million people suffer from long-term conditions (LTCs).[52] This figure is set to increase towards the end of the decade, particularly the number of people with multiple LTCs – from 1.9 million in 2008 to 2.9 million in 2018.[53] Rates of LTCs are unequally distributed across the population. People from lower socio-economic groups are more likely to suffer from LTCs compared to those from higher socio-economic groups, while in age terms LTCs are more likely in the over-65s.[54] Conditions such as hypertension, asthma and coronary heart disease are some of the most prevalent long-term conditions.[55]

Research indicates that a large proportion of in-patient activity in the NHS is related to treating people with LTCs.[56] Estimates suggest that around £7 out of every £10 spent on health and care in England is attributed to addressing people with LTCs – equating to 70% of the health and care spend going towards 30% of the population.[57]

The natural environment can contribute to tackling LTCs by offering opportunities for a physically active lifestyle, much in the same way as methods to prevent premature mortality. Research shows that use of the natural environment may also improve outcomes. For instance examining the impact of exercise on cancer patients suggests that exercise may improve quality of life, reduce negative health outcomes, help with recuperation and improve the adverse psychological effects that cancer patients may experience.[58] It has been widely recognised that schemes such as those that involve group walks in nature have been found to help tackle and improve the lives of people living with LTCs.[59]

Systematic reviews show that exercising outdoors in natural and green spaces provides additional benefits to mental health, in addition to the benefits from physical activity alone and can help in tackling LTCs such as depression.[60]

3.4. Mental health, dementia, inequalities and the natural environment

Mental ill health is a large and growing issue in Britain, with one in four adults experiencing a mental health problem in the course of a year.[61] [62] The total investment in adult mental health in England in 2011/12 was £6,629 billion.[63] There are around 820,000 people in the UK with dementia and this number is predicted to rise as the population ages. Dementia costs the economy £15 billion per year, set to rise to £23 billion per year in 2018, including costs to the health service, local government and families.[64] Therefore, tackling mental illness and dementia have been prioritised by policy-makers, evident in recent initiatives such as the Prime Minister's Dementia Challenge.[65]

Mental illness is unequally distributed across the population. For example, mental health problems are more common among people who are unemployed, have fewer educational qualifications, have been in care, are on a low income or have a lower standard of living.[66] More than 70% of the prison population has two or more mental health disorders.[67] There are also inequalities between different ethnic groups in the UK, and between men and women.[68]

People with mental ill-health also face poor physical health outcomes and are more likely to have poor diet and less exercise, and higher rates of smoking, drug and alcohol misuse. Mental health problems can increase the risk of long-term physical conditions such as coronary heart disease that contribute to premature mortality. For example, depression is associated with a 50 per cent increase in mortality from all disease and reduces life expectancy by 11 years for men and seven years for women.[69]

There is evidence that there are psychological, physical and social benefits of engaging with the natural environment for people suffering from mental illness and dementia, as well as this having a preventative role against the worsening of these conditions.[70] Less green space in a living environment is associated with a greater risk of anxiety and depression, feelings of loneliness and perceived shortage of social support.[71] Contact with nature has been linked to a number of mental health benefits, including improved mood, and reduced stress,[72] anxiety and severity of children's symptoms of attention deficit hyperactivity disorder (ADHD).[73] [74]

Additionally, people living in urban areas with larger amounts of green space show significantly lower mental distress and higher well-being.[75] For example, a study exploring the relationship between green space and perceived stress and cortisol levels among a deprived urban population in Scotland found higher levels of neighbourhood green space was associated with lower levels of perceived stress and a steeper decline in cortisol secretion.[76] Another study compared a number of brain reactions to urban and natural landscape images, finding that the natural scenes consistently garnered a more positive reaction than urban scenes.[77] A further study measured participants' emotional responses while moving through a range of urban and green space settings and found higher rates of positive responses to green spaces compared with urban spaces.[78]

The high financial costs of existing treatment options for mental ill-health provide an incentive to find alternative or additional treatment options. Evidence suggests that the natural environment can provide an option that is cost-effective and free from unpleasant side-effects – see the Ecominds case study below for one example.[79 80 81]

Ecominds

Mind's Ecominds scheme funded natural-based mental health interventions – usually known as ecotherapy – in a wide range of settings between 2009 and 2013. The scheme evaluation showed how it helped 12,071 people living with mental health problems to engage with green activities to improve their mental and physical health.

The report on Ecominds, *Feel Better Outside Feel Better Inside*, includes new findings from the University of Essex showing the many benefits of ecotherapy for mental well-being. It has shown to improvements to mental health, to boost self-esteem, help people with mental health problems return to work, improve physical health, and reduce social isolation.

4. Challenges and priorities for action

In this section we set out the ambitions, challenges and priorities for action to reduce health inequalities through use of the natural environment.

4.1. Improving coordination and integration of delivery and ensuring interventions are user-led

4.1.1. Ambitions

- Coordination and integration
- Strong leadership and developing the role of champions
- Public engagement

As described in Section 3 above, tackling health inequalities requires action across a range of social determinants of health, involving a number of sectors at local and national level. This includes children's services, education, health and housing among others, and, as presented in this report, the natural environment.

In order to make the most of the natural environment's potential to reduce health inequalities, action must come from coordinated, cross-sector collaborations. Collaboration between the health and natural environment sectors in particular will play a central role in realising the natural environment sector's potential in reducing health inequalities – see the Green Exercise Partnership example below for one successful initiative. Local authorities and Health and Well-being Boards are well placed to foster some of the necessary cross-sector working.

Green Exercise Partnership

In 2007 *The Green Exercise Partnership (GEP)* was developed in Scotland by NHS Scotland, Forestry Commission Scotland and Scottish Natural Heritage. In collaboration with NHS Health Facilities Scotland and the GEP, NHS Greenspace demonstration projects have been developed at a number of hospitals. A publication, *Greenspace design for health and well-being*[84], has been produced to inspire those involved in outdoor spaces in healthcare settings to use them for therapeutic purposes.

More information on the demonstration projects is provided at:
www.forestry.gov.uk/website/forestry.nsf/byunique/INFD-8T9D46

Greater integration between education and natural environment sectors has the potential to help reduce health inequalities. Incorporating education about the natural environment into school learning practices is a positive way of familiarising children and young people with nature and the outdoors beyond more traditional sporting and scientific activities. Increasing engagement with the natural environment through the education system can therefore produce a number of beneficial health outcomes, such as increased levels of physical activity, helping to tackle childhood obesity and greater well-being and potentially improving mental health. Two successful schemes are presented below.

Discover Woods Training

Discover Woods, an initiative led by the Woodland Trust, provided free hands-on training with professional environmental educators to equip youth leaders and Key Stage 3 and 4 secondary school teachers with the skills, confidence and activity ideas to lead engaging visits to woodland. By up-skilling over 350 leaders and teachers, the project has enhanced access to green space for environmentally-focused education and play.

Over 5,600 young people, including many excluded from the natural environment by economic disadvantage or disability, have already enjoyed a woodland visit as a consequence. Independent evaluation suggests that visits had a positive impact on children's well-being and 83% of leaders plan to continue facilitating access for young people.

Woodland Health for Youth

Woodland Health for Youth (WHY) is a current, small, innovative action research partnership between the *City Council*, University and Community Healthcare and a *Natural Connections* school in Plymouth, Devon, with support from *Good from Woods* (GfW). It explores the integration of whole-school health promotion and education policy aims through children's 'learning in natural environments' (LINE) in the local woodland. The project promotes local partnership work to improve Plymouth residents' access to green space and contributes to the evidence base for child health and physical activity interventions.

Partnership working requires strong leadership and champions for the natural environment to develop and sustain the necessary partnerships and to make the case across different sectors at the highest level. Strong leadership should also help shape public attitudes to encourage positive relationships with the natural environment.

4.1.2. Challenges

Currently, the cross-sector collaborations needed to achieve prioritisation of the natural environment and health at national and local levels do not always happen, while efforts are often fragmented or duplicated, and

resources wasted. Opportunities for aligning agendas and achieving win-wins and shared strategies with other sectors are missed. Greater within-sector communication and collaboration – across all sectors – should drive momentum, increase profile and make it easier for the public to identify a coherent approach and brand around the natural environment.

Targeting people's motivations for engaging with the natural environment is a practical way of changing public attitudes and increasing engagement. The reasons people engage with the natural environment and the way in which they do so differ and may shift throughout life. For example, research shows that the various motivations for people engaging with the natural environment include dog walking, personal health and exercise, relaxation, the pleasure of being out in the fresh air, enjoying good weather and pleasant scenery.[85]

It is important that the natural environment competes well with indoor leisure activities to encourage people to venture outdoors. The natural environment sector should embrace technologies that will motivate people to go outdoors and take more exercise. The development of innovative technological and marketing strategies that can harness the alternatives offered by indoor entertainment and act as a bridge between indoor and outdoor options plays an essential role in building interest, knowledge and motivation around engaging with nature. For example, *Project Wild Thing* is a film-led movement aimed at getting families to reconnect with the outdoors and nature and uses innovative marketing strategies to promote the natural environment to the public.

Technology could also be used as part of the efforts to improve the branding of the natural environment and bring about a change in public attitudes.

Beat the Street

The *Beat the Street* scheme is a global initiative that encourages children and parents to walk to school in order to gain points for their school and compete with others. It is a prime example of an effective and innovative method to encourage physical activity in an outdoor setting.

An evaluation report[86] looking at the performance of Reading Borough Council's Beat the Street scheme over three months from June 2013 identified a number of positive outcomes, including:

- The participation of 5,651 people (2,994 adults and 2,627 school children) walking a total of 51,003 miles.
- 67% of adult users said they had increased the amount they walked since participating in the scheme and 27% said they had cycled more.
- Eight out of ten participants said they would continue to walk/cycle even after the scheme ended.

The most commonly cited reasons for participating were: to win points for the school, to have fun, and to get more exercise.

Active Parks

Birmingham City Council is working with Intelligent Health, a health IT company, to evidence the value of the city's parks in terms of encouraging people to be more active. Active Parks, launched in 2013, complements Birmingham's NHS-funded Be Active programme, which offers the use of its leisure facilities free to residents at allocated times during the day. The Active Parks project has created card technology so individuals on GP referral schemes using the park for exercise can swipe a smart card across a reader and money will automatically flow from the NHS to the parks department. Work is underway to enable people to use their phone to touch the reader, to enable the council to find out who is using the parks for health purposes. This information can then be used during the budgeting process to evidence the value of parks.

For more information see:
http://beactiveparks.com/about

The Mappiness App

The Mappiness App is a free smartphone app. Developed as part of a research project at the London School of Economics, it maps happiness across different areas of space in the UK. The app provides the user with information about their own happiness, including when, where and with whom they enjoy spending their time. It provides the researchers with information about how people's local environment affects their happiness, taking into consideration factors such as the amount of air pollution, noise and green space, giving a score out of 100.

The LSE team found that average happiness was 60.7. This increased by 2.3 points when an individual was outside, and a further 6 points if the individual was in a marine or coastal environment, compared with an urban area. All other natural environment land cover types and outdoor activities also increased happiness, but to a lesser extent.[87]

4.1.3. Action: working in partnership and with the public

Health sector

Locally, the move of public health responsibilities to local authorities and the establishment of Health and Well-being Boards (HWBBs) and Clinical Commissioning Groups (CCGs) should support greater local collaborative action and commissioning. The natural environment sector could assist HWBBs and CCGs to fulfil their duties in reducing health inequalities and improving health and well-being outcomes. There is also a role for the natural environment sector in fostering links between local authorities, CCGs, HWBBs, town planners and others involved in land management, as well as local non-governmental organisations (NGOs), community groups and the private sector through, for example, Local Nature Partnerships.[88] As mentioned in the Government's Natural Environment White Paper (2011), it is important that Local Nature Partnerships and HWBBs embed collaborations further.[89] The points below are potentially strong mechanisms and levers within health and public health which should support consideration of utilising the natural environment to achieve positive health outcomes.

- The Public Health Outcomes Framework sets the context for the system, from local to national level, and aims to improve and protect health across the life course and to reduce inequalities in health. Indicator 1.16 relates to the percentage of people using outdoor places for health/exercise reasons. Local authorities and national public health systems will work towards improvement in this indicator.
- Health and Well-being Boards' Joint Strategic Needs Assessments, which assess health and the factors that shape health in local areas, should focus on the amount and quality of natural environment in local areas and on population engagement, including inequalities, to inform Health and Well-being Strategies. This should help prioritise the issue for Health and Well-being Boards and local authority sectors more broadly and influence commissioning decisions.
- Following legislation in 2012, Clinical Commissioning Groups and public health teams have a 'duty to reduce inequalities between patients with respect to health outcomes achieved for them by the provision of health services'.[90]
- The Social Value Act 2012 places a duty on public bodies to consider social value during the procurement process. The Act means the authority must consider how what is proposed to be procured might improve the economic, social and environmental well-being of the relevant area, and how, in conducting the process of procurement, it might act with a view to securing that improvement. Although the accountability and enforcement mechanisms are underdeveloped, the Social Value Act could provide a mechanism to prioritise the natural environment's role in commissioning of health, and other, services.
- Expanding the education and training of GPs, nurses, district nurses in particular, and other health professionals to include education on the benefits of nature and outdoor activities, as well as making health professionals more aware of the kind of services the sector has to offer could achieve positive outcomes for both sectors.

Mersey Forest Natural Health Service

The Natural Health Service consortium, in the Mersey Forest area, consists of 21 organisations working to develop a sustainable business using natural environment-based products to help improve the health and well-being of individuals and communities. The service is offered to the new commissioning bodies and is linked to the Public Health Outcomes Framework and to relevant local priorities.

The rationale behind the development of the service is:

1. Increased evidence of the benefit of environment-based health products such as Green Gym and Horticultural Therapy to treat a range of illness and safeguard good health.
2. Awareness among the consortium that a coordinated approach to the health sector with a business-like approach offers the best option for long-term sustainability of the products that they offer.
3. The need to address costs in the NHS by delivering upstream health improvements that reduce pressure on acute health services.

Each unit of treatment for a particular product consists of 16 sessions of activity with each session able to accommodate ten people. These can be run once or several times a week. The course of treatment may last anywhere from 4 to 16 weeks depending on the products and the needs of the clients.

The Natural Health Service model could be extended to support Health and Well-being Boards and commissioning organisations across the country. Elements of the Natural Health Service could provide the following functions:

- Coordination and integration
- Leadership
- Advice/support
- Monitoring/evaluation
- Promotion/communication
- Transfer of excellence

Ecominds

Some of the projects funded by Mind's Ecominds scheme have been successful in building relationships with GP surgeries and mental health services to become part of the referral system, particularly where social prescribing initiatives are in place. For instance Ecominds: *PoLLeN* (People, Life, Landscape & Nature) received Ecominds funding to provide adults with mental health problems with social and therapeutic horticultural activities that improve mental well-being. PoLLeN also provides opportunities to learn new skills, build friendship groups and give something back to the community by improving the local environment. The project is co-located with a GP practice at the Bromley-by-Bow Healthy Living Centre in East London. GPs see PoLLeN as one of a range of treatments that can be prescribed for local people who come to the surgery with symptoms of mental ill-health. The centre uses a social prescribing model whereby health professionals refer patients with mental health problems to the project either as a treatment in itself or alongside other treatments such as drugs or talking therapies.

Education sector

Links between education and the natural environment sector are also important for garnering health benefits from the natural environment. Projects have been implemented which aim to get children involved with nature and the outdoors by offering programmes to schools.

The *Hampstead Heath Education Programme*, run by the City of London, is a programme which offers schools, many located in urban environments, the opportunity to venture outside the classroom. There, students experience natural spaces and build knowledge and emotional connection with nature and wildlife. The programme has reached over 30,000 pupils since 2005.[91]

The Evaluation of Access to Nature education projects found that the principal challenges faced in working with schools included teachers' lack of knowledge of local green space and lack of confidence in delivering outdoor learning. *Successful projects* invested time to build collaborative relationships, offered resources and knowledge of local available green space, continuing professional development (CPD) opportunities to teachers, and taster sessions at times and places suited to individual schools.[92]

Travelling to School Initiative

The *Travelling to School Initiative* was developed by the Department for Transport in conjunction with the former Department for Children, Schools and Families. Its aim is to increase the use of healthy and sustainable modes of travelling to school, such as walking and cycling, through a range of projects, campaigns and schemes.

TCV Green Gyms®

TCV Green Gyms® work to transform people's health and well-being through participation in outdoor conservation activity. The activities are group-based, physically challenging and result in green spaces being created for the wider public benefit. Regular attendants increase their activity over time and so get fitter. They also develop a social or 'peer support' network, and have more contact with nature than they would do otherwise. This powerful combination helps them to develop resilience against mental and physical health problems, and through learning how to manage green space, new skills, knowledge and confidence.

Natural Connections Demonstration Project

The Natural Connections Demonstration Project is an initiative funded by Natural England, Defra and English Heritage, which Plymouth University delivers. It is one of the largest outdoor learning projects in the UK involving around 200 schools and between 200–500 volunteers. This innovative project operates at a local, school-led level in five 'hubs' across the South West, and aims to significantly increase the number of school-aged children experiencing the full range of benefits that come from learning in natural environments. Natural Connections runs until March 2016.

Forest Schools

Forest Schools provide pupils with the opportunity to undertake their learning in an outdoor environment so that they engage with nature and in more physical activity. The Forest School approach can be particularly beneficial for children with special educational needs. Research in Scotland found that children in the study were significantly more active on Forest School days than they were on typical school days.[93]

Public engagement

Creating a dialogue between the people who manage green spaces, local authorities and the community to establish what the public, particularly those not using green spaces, want from these spaces is important in increasing use and improving access. For instance, improving access to green space can be enhanced by understanding community needs and barriers to access. Poor quality places and lack of facilities are examples of reasons for not visiting natural environments. High quality engagement with local communities can develop understanding of these barriers and facilitate appropriate action to remedy them.

The development and implementation of innovative projects can encourage greater outdoor engagement and go some way to building knowledge, use and confidence in outdoor environments among groups who are less inclined to visit the natural environment. Carefully designed programmes for engaging communities are particularly important for socially excluded groups, who are at greater than average risk of poor health and typically have less access to

green spaces and use them less.[94] Natural and green spaces offer a platform for social integration, can improve and foster community cohesion, and promote socially inclusive behaviour along with a range of physical and mental health benefits.[95 96]

Research outlines some of the main reasons people do not visit the natural environment; these include being too busy at home and at work, poor health, limited access to natural spaces, or not seeing any particular reason for engagement.[97] Persistent reasons for disengagement with the natural environment include fears for personal safety, crime and potential risks and hazards, as well as adverse weather conditions, a lack of appropriate outdoor clothing and poor proximity to good quality natural and open spaces. Other reasons include a lack of required knowledge or motivation to venture outdoors. In order to realise the health-giving potential it is important that these barriers are understood and work continues to reduce them for everyone.

Some projects have sought to break down barriers that deter people from engaging in the natural environment in a bid to improve perceptions of the natural environment and increase use.

Access to Nature

The evaluation of *Access to Nature* found that the benefits of green space and nature are often initially perceived as irrelevant, unimportant or part of an imposed change – especially to residents of urban areas who may only have access to heavily managed communal green space.

Access To Nature projects which successfully overcame barriers to engagement developed partnerships with organisations that had a track record of working with hard-to-reach groups, local authorities, schools, social landlords, and those with experience of delivering site improvements or outdoor learning opportunities.[98]

Capital Woodlands

The Capital Woodlands project, funded by the Heritage Lottery Fund, engaged local residents in deprived areas in projects concerning their local woodlands. For example, in Peabody Hill Wood, Lambeth, London, community events and volunteering activities helped to engage local residents with the wood and provided understanding of some of the problems residents faced in accessing the wood.[99]

Stepping Stones to Nature

The Stepping Stones to Nature (SS2N) project, funded by the Big Lottery Fund, was led by Plymouth City Council from 2009–2014. It aimed to assist people to overcome barriers to access to green spaces, focusing on more deprived neighbourhoods and with specific target groups. There were four main outcomes in relation to natural spaces: 1) they became easier to get in and around; 2) they were used and cared for as participants gained confidence, knowledge and ownership; 3) they were valued, used and promoted for their health benefits; 4) they were used and improved by a range of organisations working together. This partnership aspect was considered critical to the project's success.

Other projects have combined the natural environment with recreational activities, such as art and sport, to attract hard-to-reach groups and non-traditional users.

Active England

The Active England project aimed to increase community participation in sport and physical activity among under-represented groups. Five woodland projects provided opportunities to work with a variety of BAME, women and local income groups to reduce barriers to using forests for physical activity and well-being.[100]

50 things to do before you're 11 ¾

50 things to do before you're 11 ¾ is a campaign set up by the National Trust. It aims to help parents and children identify outdoor activities that both challenge and improve the skill of children.

80by18

Similarly, the Bristol-based *80by18* initiative is a list of 80 activities, many outdoors, that children and young people might do by the time they turn 18. It shows particular promise and could be replicated elsewhere.

The development and implementation of innovative technologies such as *Geocaching* encourage greater outdoor engagement and would go some way to rival competing indoor leisure options. They also alter the way some sections of the public view and use natural spaces and encourage use.

4.2. Building a stronger evidence base to ensure programmes are evidence-led

4.2.1 Ambitions

- Draw together existing evaluations and impact studies
- Build evaluations of health equity into new programmes
- Work towards standardising information and evaluations

Research evidence of the kind outlined in Section A of this report is helpful in making the case for interventions, ensuring higher prioritisation, shaping intervention provision and delivery, and understanding outcomes for people. The evidence in this report clearly demonstrates that reducing inequalities in use of and access to natural environments could help reduce health inequalities in some key health priority areas. Continuing and furthering research into these issues is important for informing policy, helping prioritise certain actions and for designing and commissioning appropriate interventions.

Greening Dementia

Natural England, *Dementia Adventure* (a Community Interest Company which connects people living with dementia with nature and a sense of adventure) and the Woodland Trust joined forces to review the existing evidence of the benefits and barriers facing people living with dementia in accessing the natural environment and their local green space. Their Greening Dementia report provides practitioners and commissioners with a comprehensive synthesis of the available evidence.[101] It is also being used as the basis for developing a partnership project to address the barriers, enable more people living with dementia to enjoy the benefits of the natural environment and therefore advance policy and practice in Natural England's Outdoors for All programme.

Collection of relevant and timely data from specific services and interventions is important for organisations to secure the necessary funding to develop and implement projects, and build the case among commissioners to attract investment. It is also important that commissioners provide sufficient funding to obtain high quality evaluation and robust data. However, funding and establishing evaluated research is challenging, particularly given spending reductions and the challenges of establishing impact for areas as complex and long term as health. There are opportunities for meta-synthesis across nature-based interventions for health and well-being to identify similarities and differences in findings across different habitats and different types of people. The *Cochrane Collaboration Public Health review group* plus the *Collaboration for Environmental Evidence at the Centre for Evidence-based Conservation, University of Bangor* are leading the way here.

4.2.2 Challenges

Commissioners have a responsibility to achieve the best possible outcomes with available funding and hence look for cost-benefit analysis or some measure of return on investment. This enables them to judge which programme will give them the greatest return in particular areas. However, there is a lack of this type of robust evaluation available for natural environment impacts on health. There are many reasons for the scarcity of this type of research – including complexity of programmes and difficulty in establishing impact and causation, especially where impact is likely to be long term as in the case of health outcomes. Moreover, most cost-benefit analyses do not take account of impacts on equity. In addition to some of the technical difficulties in establishing impact, evaluations are expensive and frequently not accounted for in programme budgets.

The natural environment sector needs to ascertain and summarise the existing evidence and further develop it to demonstrate impact. This will assist with learning from, and improving programmes and develop the case for strategic prioritisation and commissioning services. As the sector is currently fragmented, a more coordinated approach is required.

While the diversity of the environment sector has enabled it to pilot a wide range of innovative interventions, there is currently no standard data collection across the sector and evaluation and data collection techniques vary. Comparisons of efficacy of programmes are therefore difficult to make. Commissioners prefer provision of standardised information with which to compare programmes.

In the absence of this type of information, to attract funding it can be useful to provide commissioners with qualitative evidence that demonstrates project effectiveness in improving people's lives, including health outcomes, as well as case studies showing human stories.

4.2.3. Actions

A more active approach to measuring performance and outcomes before, during and after implementation, utilising questionnaires, surveys, follow-ups and project evaluations, would build on existing evidence and ensure that projects had solid documentation of their performance and achievements. Equity should be a key consideration in evaluations and be built into data collection and interpretation.

In order to demonstrate impact effectively and show relationships with health equity and secure support from commissioners, the evidence base around health inequalities and the natural environment needs improvement in a number of areas:

- Collection of more longitudinal and quantitative data
- Creation of standardised measures and assessments of interventions according to similar criteria to allow for comparisons

- More evidence using physiological and objective indicators, such as cortisol, EEG, blood pressure data, to engage with the health sciences
- Meta-synthesis and systematic reviews across evaluation of interventions – qualitative and quantitative
- Include health and particularly health equity as an impact measure. This should also include mental health and well-being
- Work with commissioners to ensure the sort of data and information they need is collected and built into projects from an early stage
- Ensure that socio-economic and equalities data is built into evaluations and impact assessments
- Identify how the quality of the natural environment can influence health and well-being
- Aim for greater similarity across the sector in the methods used and data collection

Commissioners and funding bodies would be well placed to lead on promoting good practice. However, all parties have a role to play in supporting the development of a stronger, more coherent evidence base.

It is important that future projects track the effectiveness of programmes to improve health outcomes and incorporate health equity measures into their project evaluations, even if the programme does not have an explicit, specified health focus. For example, projects that aim to educate children about nature and wildlife may not have health at the centre of their focus, but can increase the physical activity of participants and enjoyment of nature and lead to improved health outcomes. This should be assessed as part of the evaluation.

Demonstrating early successes will help build partnerships and collaborations and increase motivation. There are opportunities when working with other sectors and organisations to identify quick wins that could make a big contribution towards reducing health inequalities and to help motivate and sustain partnerships. Evidence is also needed from nature-based interventions for health from process indicators to provide insights into the successes and challenges of partnership and collaborative working as well as interdisciplinary research working with researchers from disciplines with differing epistemologies.

Standardising impact measures and methods across the natural environment would allow for comparison between projects and assist commissioners in establishing appropriateness and value. The IPEN study aims to do this for studies around environments and physical activity.

IPEN

The *IPEN* (International Physical Activity and the Environment Network) study was set up to provide convergence of data and methods across countries in order to monitor and compare relationships between environments and physical activity, based on the understanding that there would be many advantages to using common study designs and measures. It uses the results to advocate for evidence-based environmental and policy changes to support and promote physical activity internationally.

Mosaic

Mosaic is a series of projects run by the Campaign for National Parks (CNP). It aims to build engagement in National Parks among BAME communities and socially and economically excluded young people. Mosaic recruits local 'champions' to get involved in making National Parks more accessible. The Mosaic Young Champions project (working with 16–25 year olds) has specific targets around improved health and well-being as well as employability. Mosaic uses both standard and bespoke methods to measure health outcomes from the project, working with Plymouth University. Conservation volunteering opportunities have had particularly high take-up rates by champions and significant results in terms of improved well-being.

A second Mosaic project works with BAME communities in areas of high urban deprivation. CNP is collecting a bank of case studies from the project which illustrate impacts on health of using National Parks.

4.3. Ensuring sustainable delivery of services that use the natural environment

4.3.1. Ambitions

- Proportionate and universal approaches to improving use of, and access to, the natural environment
- Action across the life course
- Long-term approaches

Reducing inequalities in health in a sustainable and cost-effective manner will be greatly enhanced if the natural environment sector can deliver on its potential as a low-cost solution to improving health outcomes across the socio-economic gradient. Programmes that are delivered without a clear focus on improving equity of access and use of natural environments will not help reduce health inequalities. In fact, programmes that do not incorporate a focus on equity in design and delivery may deepen health inequalities, as they are likely to be taken up more by those further up the social class gradient, improving their health without improving the health of those lower down the gradient. The social class gradient in health can steepen unless action is designed to impact proportionately, according to need and with a clear

understanding of systematic socio-economic differences in health outcomes.

Proportionate universalism is a way of describing actions or interventions that are implemented for a whole (universal) population, but with a scale and intensity that is proportionate to need. This approach aims to reduce the social gradient in health and thereby reduce health inequalities. In the context of this paper, a proportionate universal approach aims to tackle inequalities in access, use and health benefits of the natural environment, related to socio-economic status.

Life course approaches: Actions are needed which are appropriate to every stage of life. Programmes need to be designed to improve access and use of the natural environment for different age groups, because at different ages people use the natural environment differently and for different purposes. A life course approach means designing a range of appropriate interventions across the life course so every age can benefit from greater use of natural environments. People have contact with different sectors and services at different times of life, for instance education, employment, and so on. All these age-specific sectors need to be active in ensuring that good use of natural environments is encouraged and facilitated for all age groups. Public Health England has developed an approach to health and well-being based around the life course, and the Marmot Review and other reviews have made proposals based on reducing health inequalities through action on the social determinants appropriate to different stages of life.[102]

Ecominds engaging older men in well-being services

Ecominds runs a service that targets that needs of older men. Men are less likely than women to come forward for help with mental health problems and are more likely to take their own life. Ecominds attracted and retained large numbers of men, which is unusual for a well-being service. A key success factor was that projects invited men to take part in green activities and be more active outside, rather than asking them to join a service that was about health and well-being. This was more socially-acceptable for men and overcame some of the barriers that men experience such as resistance to seeking help, and fear of stigma or being seen as 'unmanly'. At Ecominds-funded projects, men said that they felt more relaxed and could open up to others about their problems while they worked.[103]

Programmes should be designed and funded for the long term. A series of short-term projects will not deliver anything like the benefits of longer-term strategies and sets of interventions that develop and are embedded and refined over many years. Longer-term programmes require funders, commissioners and organisations responsible for the design and implementation of programmes to think more strategically about the duration of projects and programmes, with a focus on ensuring sustainability of action. Funding is a perennial issue for the natural environment sector; without some further investment, the potential of the natural environment to improve health and reduce health inequalities will not be realised.

4.3.2. Challenges

Designing proportionate universal programmes can involve providing some targeted programmes for specific groups which run alongside a universal approach. In this way action is both universal, yet also proportionate to need. A second way to design such approaches is to have a universal programme which is delivered with more intensity and scale further down the socio-economic gradient. The natural environment is mostly available to all as a 'universal' service, although unequally used and with unequal access. Proportionate universal programmes should ensure greater equity in use of good quality environments, access and benefits.

The natural environment is also mostly available for everyone, at all ages – even though there are different levels and types of use with age. Designing programmes for all ages, working with appropriate age-related sectors, such as children's centres, the education sector, employers and so on, will help ensure that all ages are able to benefit in appropriate ways.

VisitWoods East Durham Outreach

VisitWoods, an Access to Nature funded partnership project led by the Woodland Trust, recently delivered a successful outreach programme, *VisitWoods in East Durham*. East Durham is an area of multiple deprivation, but is rich in green space. Activities were targeted and tailored to the needs of adults and children excluded from the natural environment by a range of health and social problems and associated practical and perceptual barriers. The project successfully unlocked the health benefits of woodland for groups who are usually under-represented as visitors, including stroke survivors, children with autism or visual impairments and adults with mental health problems. The Outreach Officer successfully engaged hard-to-reach groups by working with and through local community groups, building group leaders' confidence and working with them to deliver bespoke activities to fit their specific needs. Although focused on target groups, the project also benefited a wider audience.

During times of austerity, issues of finance, commissioning and funding are a concern for many who work in the public and third sector. There is clearly worry over the impact of government reductions in funding to the natural environment sector and the increasing financial pressures under which organisations have to operate. Additionally, as commissioners find themselves placed under more financial constraints to deliver on their objectives, commissioning for the natural environment slips down their list of priorities.

Short-term funding measures rarely last long enough for projects to establish any real impact, demonstrate sustainability, provide learning for development or enable collection of longitudinal data to establish impact and learning. For example, judging whether a project has had an impact on preventing premature mortality is particularly difficult, and inappropriate, in the short term. However, the funding of long-term projects would allow organisations to demonstrate sustainability, make thorough evaluations of projects, collect

longitudinal data, continually appraise and change approaches as necessary, all of which would help make the case for future investment and scaling up projects. As well as establishing and demonstrating efficacy, longer-term approaches can make more impact, and become embedded and better tailored to local areas as needs shift.

4.3.3. Actions

There was widespread agreement from conference participants that with the right drive, targeting and strategies the natural environment sector could utilise its resources to secure funding through particular policy levers. For example, following legislation in 2012, the NHS and those holding the NHS public health budget have a 'duty to reduce inequalities between patients with respect to health outcomes achieved for them by the provision of health services'.[104] As the natural environment has the resources to provide effective solutions to reducing health inequalities at low cost, the sector could use its resources as leverage in securing funding and assisting Health and Well-being Boards in fulfilling their health inequalities duties and improving health and well-being outcomes for local people. Procurement obligations in relation to the Social Value Act can also potentially be drawn on to support the commissioning of natural environment programmes and interventions. The Act places an obligation on public bodies to incorporate social value in procurement decisions and processes.[105] The Social Value Act has not been widely utilised[106] but there is potential for the natural environment sector to explore opportunities it presents.

Identifying vulnerable groups in an area and tailoring services towards those groups may help foster links with Clinical Commissioning Groups and Health and Well-being Boards. Some participants proposed that organisations concerned with interventions and projects take a different approach with commissioners and provide services targeting the recuperation of patients and establishing impact on long-term conditions and potential cost savings to health service and social care budgets.

Care Farming UK – helping people grow

Care farming is the therapeutic use of farming practices. Care farms provide health, social and/or educational care services for a range of vulnerable groups of people and provide a supervised, structured programme of farming-related activities.

Care Farming UK is a professional charitable company and network which provides a voice and supportive services for care farmers, to inspire decision makers and to develop policies and actions that will support care farming in the UK.

Care Farming UK is led by care farmers and care farming experts, and has four strategic objectives, namely to:

Support care farmers – to improve the quality and provision of services provided by Care Farms and to support the development of a community of practitioners

Develop networks – to enable care farming networks to develop across the UK that will support the practice and capacity of individual care farms and facilitate relationships with local commissioners

Raise the profile – to increase the profile and awareness of the impact of care farming at both a UK and national level

Expand the evidence – to develop the evidence-base for the effectiveness of care farming, and to disseminate this evidence.

Case studies and a Code of Practice are available on the website *Care Farming UK*, alongside details of care farms, country and regional networks, and research evidence.

Coventry Mind's ecotherapy service

Coventry Mind provides a weekly horticultural service called Gardening in Mind, which helps the recovery of people with mental health problems at five allotments in the heart of the city. Participants work with staff in a peaceful and safe green space that offers therapeutic, practical and social benefits to all.

Before attending the project, Alan was diagnosed with Asperger Syndrome and also suffered from depression and acute anxiety. When Alan started attending he had no friends, was prone to relapse and was dependent on his mother for care. His mother was increasingly less able to cope due to her own health problems and it was a matter of time before a significant care intervention was needed for her. This would have left Alan isolated and vulnerable to deteriorating mental health.

After joining the service, Alan's support workers noticed a significant improvement in his organisation, routine and social interaction. Although still vulnerable, he rarely suffers a relapse, and the Gardening in Mind staff can spot any warning signs in advance, which reduces the need for greater and more expensive interventions later. Alan has continued to improve to the extent where he is now the named carer for his mother, which has resulted in him receiving carer's allowance rather than unemployment benefit.

Longer-term funding may be available through commissioners, including health, public health and local authorities more broadly, if the health inequalities case can be made and existing policy mechanisms and levers utilised. Alternative options for successful funding opportunities exist in organisations outside the health sector. Large charities, such as the Royal Society for the Protection of Birds, World Wildlife Fund and Oxfam could commission longer-term projects relating to the natural environment and health inequalities.

4.4. Increasing the quality, quantity and use of natural environment assets that benefit people's health and help prevent ill health

4.4.1. Ambitions

Section 1 described significant socio-economic, and other, inequalities in access and use of the natural environment. It also presented evidence demonstrating that use of good quality natural environments is related to better health outcomes. The unequal distribution and use of natural environments is likely to play a role in perpetuating or deepening health inequalities. In order to realise the potential of the natural environment to help reduce health inequalities and improve health it is important to reduce variation in the provision, quality and use of natural environment assets and make the most of the health-giving aspects of using natural environments.

Natural England's guidance *Nature Nearby* sets out ambitions for enhancing the quantity and quality of accessible natural environments near to where people live. It aims to assist those planning and managing green space, providing a source of advice and support for delivering high quality 'nature nearby'.[107]

4.4.2. Challenges

Increasing the quality, quantity and use of natural environment assets is challenging, particularly in the current funding context. Some services that work to improve the use of and access to natural environments are being decommissioned; this will have an impact on inequalities, since, as this report illustrates, use, access and impact are unequally distributed. Services that improve use and access are often most needed by excluded communities and groups, and those who have less access and use. They need more investment, not less, in order to help improve health inequalities. As this report has set out, quality of environments is important in generating their greater use; however, quality in many areas is being affected by cuts to services and facilities.

4.4.3. Actions

There are good examples of programmes which bring the assets in some form to communities and people who are not physically close and for whom transport is also a barrier. Clear ambitions for the provision of green space

may aid policymakers in addressing the limited provision in some areas – a prerequisite for utilising green space to tackle health inequalities.

Nature Nearby includes the Accessible Natural Greenspace Standard (ANGSt), which recommends an approach or tool for assessing green space needs. The Green Flag quality award (a national standard for public parks and green spaces) and service standards for Country Parks and National Nature Reserves are also advocated as tools to help drive up quality. These tools are often used by local authority planners, green space managers and others to guide decision making, for example to support Local Plans, Open Space or Green Infrastructure Strategies and Community Infrastructure Levy audits. Health and Well-being Boards, Clinical Commissioning Groups and local authority public health teams could also benefit from collaborating with others to use these tools to increase the quantity, quality and use of green space for health benefits, particularly in neighbourhoods with greatest health inequality.

Access standards

The Woodland Trust's Woodland Access Standard aims to ensure everyone has reasonable access to woodland. It states that no one should live more than 500 metres from accessible woodland of no less than 2 hectares and that there should also be at least one area of accessible woodland of no less than 20 hectares within 4 kilometres of people's homes. The standard has been developed in partnership with agencies such as the Forestry Commission and current provision is reviewed annually to track progress towards this target.

The Accessible Natural Greenspace Standard (ANGSt) recommends that everyone, wherever they live, should have an accessible natural green space:

- of at least 2 hectares in size, no more than 300 metres (5 minutes' walk) from home
- at least one accessible 20 hectare site within two kilometres of home
- one accessible 100 hectare site within five kilometres of home
- one accessible 500 hectare site within ten kilometres of home
- a minimum of one hectare of statutory Local Nature Reserve per thousand population

5. Conclusions

Health inequalities in England are persistent and some measures show they are widening. The evidence presented in this report describes how increasing access to, and use of, good quality natural environments can help improve health and reduce inequalities; for example, how obesity, long-term conditions, illnesses which lead to premature mortality and mental health can be positively impacted by access to and use of natural.

The report has outlined some of the main challenges in achieving greater equity in access to and use of natural environments. These include the following challenges for the natural environment sector:

1. Improving coordination and integration of delivery and ensuring interventions are user-led, through
    - coordination and integration
    - strong leadership and the role of champions
    - public engagement
2. Building a stronger evidence base to ensure programmes are evidence-led, through
    - drawing together existing evaluations and impact studies
    - building evaluations of health equity into new programmes
    - working towards standardising information and evaluations
3. Ensuring sustainable delivery of services that use the natural environment, through
    - proportionate and universal approaches to improving use of and access to the natural environment
    - long-term approaches
4. Increasing the quality, quantity and use of natural environment assets that benefit people's health and help prevent ill health, through
    - reducing the variation in the provision, quality and use of assets
    - targeting areas of greatest need.

Concerted action is required at national and local level. The new health system offers great potential for further integration of natural environment, health and education sectors including some potentially important policy levers, particularly the Social Value Act and Inequalities duties in the Health and Social Care Act 2012. Making the case for the benefits natural environments bring for health, education, reducing social isolation, and

improving community cohesion for instance, will help to protect these valuable public assets. Public engagement is critical and this report has described some interesting and innovative ways of engaging and motivating people to use natural environments more.

In order to improve equity there must be a sustained and consistent focus and this means designing and delivering programmes for those who are least able or willing to visit natural environments. There are many excellent examples of programmes that do that; some are described in this report and these must be scaled up and combined with a focus on improving provision, quality and access for all. Approaches must be universal but also proportionate to need.

Achieving sufficient funding, scale and longevity for natural environment programmes is difficult and all sectors involved have to work towards providing evidence of impact and wide-ranging benefits for commissioners. Greater standardisation and coherence in methods of establishing impact across the natural environment should help and existing policy levers should be drawn on more, to provide a legal framework and support for commissioning interventions.

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