

the adult health and social care crisis – green infrastructure as part of the solution

Rather than regarding green infrastructure as a burden on hard-pressed public finances, we should embrace it as an important part of an approach to sustainable healthcare, says Ben Williams

Linking green space to health outcomes is not a new idea, but it is one which is gaining renewed prominence as pressure on public services continues to mount and the imperative to 'do more with less' drives all but the most hard-line of traditionalists to think creatively about how they can deliver multiple benefits through service delivery.

Even without the bottom-line reductions¹ in public sector spending, the increased cost of supporting an ageing population means that everything else is taking a de facto reduction. In 2016, dementia overtook coronary heart disease as the leading cause of death in the UK. The 'graph of doom' (see Fig. 1), originally articulated by the London Borough of Barnet,² is something that has been facing local authorities with increasing severity since the onset of austerity, and it is approaching the critical point.

The House of Commons' Communities and Local Government Committee *Public Parks* report, published January 2017,³ clearly recommends that:

'[Local Authorities] should work collaboratively with Health and Wellbeing Boards, and other relevant bodies where appropriate, to prepare and publish joint parks and green space strategies.'

It doesn't leap off the page, but the implications of this are huge in terms of driving localities towards a more integrated approach to planning for green infrastructure and health. Also significant within this

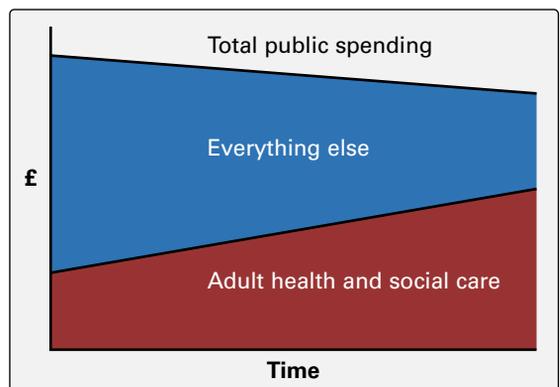


Fig. 1 The 'graph of doom'

debate is the rise of social prescription that links adult patients with wider support networks in the community. This provides an increasingly well recognised referral route through which green infrastructure benefits to health can be achieved.

In many areas green infrastructure is at the forefront of the debate on public service reform. Parks and open spaces services are perennially the first against the wall when another round of budget cuts is being proposed, and yet the evidence base for the positive impact of access to green space on health has never been stronger. The really critical long-term, quality-of-life-limiting conditions which lie

at the heart of much of the pressure on adult health and social care all have potential mitigations rooted in better access to and more regular use of green space.

The wider determinants of wellbeing and liveability and the effects of contact with nature are well documented. The ‘five ways to wellbeing’⁴ – connect, be active, take notice, keep learning, and give – are all promoted through outdoor activities. The Health Foundation identifies ‘our surroundings’ (see Fig. 2) as one of eight factors, outside of health care, that influence people’s opportunity to live a healthy life.⁵

Initiatives such as the Conservation Volunteers’ Green Gym,⁶ Groundwork’s Target: Wellbeing,⁷ and Mind’s Ecominds⁸ have been quietly and effectively delivering health outcomes through green infrastructure for years. However, these interventions have consistently existed in the margins of service delivery, typically small scale, short term, and resourced through discretionary or external funding. Examples of green infrastructure interventions successfully penetrating into the heart of service provision are few and far between.

The green space sector now finds itself at a tipping point. Over the short to medium term, we will either see a paradigm shift in which green infrastructure becomes embedded in the process of maintaining wellness and managing long-term conditions, or we will continue with a biomedical approach to health and illness, and green infrastructure will continue to exist in the backwaters of public service delivery.

Aside from anything else, the challenge is a philosophical one. Do we continue to regard green infrastructure as part of the burden on public finances, or do we choose to embrace it as part of the solution?

If we are to achieve this paradigm shift, we need action in four key areas:

- access to green infrastructure;
- understanding what works where;
- investing in skills and capacity; and
- the will to change.

Access to green infrastructure

It goes without saying that in order to achieve health outcomes through green infrastructure, people need good access to good-quality green infrastructure.

Effective planning and delivery of green infrastructure at all levels is vital if it is to be effective in delivering health outcomes – at the extreme local level, such as enabling people to see green from their office window or hospital bed; at median levels, such as enabling people to take five minutes in a green space to stretch their legs and refresh their heads, or to take regular exercise in a green space; and at the spatial level, creating localities and networks that are social, connected, walkable and bikeable, and where parks and countryside are accessible and attractive to all.

And in achieving this we will need planning policies that recognise, articulate and are prepared to defend the value of green infrastructure in all plans and developments, and which include clear standards for quality, quantity and accessibility that were lost with the revocation of Planning Policy Guidance 17 (PPG17): *Planning for Open Space, Sport and Recreation* and are now less explicit within the National Planning Policy Framework. The pressure on the UK to achieve housing targets is immense. Failure to plan, design and deliver healthy and sustainable communities that



Fig. 2 ‘Our surroundings’
 Source: The Health Foundation⁵

		Nature, health and wellbeing sector	
Experiencing nature	Everyday life – <i>General population</i>	Health promotion – Nature-based activities <i>General population</i>	Green care – Nature-based therapy or treatment intervention <i>People with a defined need</i>
	View from window (at home or work)	Restorative landscapes and gardens	
	Green exercise (e.g. walking, running, cycling in nature etc.)	Green exercise initiatives (e.g. Walking for Health)	Green exercise (as a treatment intervention); Nature therapy; Wilderness therapy
Interacting with nature	Gardening/horticulture – (at home or work)	Social and therapeutic horticulture; Community food growing; Community gardening	Social and therapeutic horticulture; Community food growing (as a treatment intervention); Horticultural therapy
	Forestry, environmental conservation (at home or work)	Environmental conservation groups	Environmental conservation (as a treatment intervention); Ecotherapy
	Farming	Community farming; City farms; One-off care farm visits	Care farming
	Human-animal interactions; Animal-based recreation (e.g. dog-walking, horse- riding, etc.)	Animal-assisted activities	Animal-assisted therapy

Fig. 3 The different contexts in which an individual may engage with nature

Adapted from DK Haubehofer *et al.*; J Sempik and R Bragg; and R Bragg⁹

meet the need for new housing will only exacerbate this growing public health crisis.

Understanding what works where

The evidence base for green infrastructure and health is challenged from all angles by clinicians and commissioners seeking cast-iron evidence of specific impacts on specific conditions. The bare fact is that the evidence for green infrastructure health interventions is not, and most likely never will be, at the standards expected by NICE (the National Institute for Health and Clinical Excellence) and many mainstream health commissioners.

Green infrastructure interventions are typically effective in complex, long-term, systemic conditions, and in areas where conventional medicine either has not been effective or is not an option that the patient wishes to take up. In these circumstances, delivering randomised control trials and longitudinal studies is simply not feasible, particularly considering the spartan resources typically associated with green infrastructure interventions. Rather than repeat this cycle ad infinitum, the debate on the health-giving aspects of green infrastructure needs to be reframed.

Everyone knows that smoking causes cancer, but definitively stating that an individual has cancer because they smoked is a much trickier proposition. In similar fashion, everyone will admit that engaging with green space is good for people’s health; but tying a positive progression in an individual specifically to a green infrastructure intervention is the tricky bit.

One methodology, developed by Care Farming UK, articulates both the depth of interaction with nature and the health outcomes sought. This provides a very useful ready reckoner to guide both service providers in shaping provision and planners in assessing what functionality within green infrastructure would have the best likelihood of supporting a given health outcome. Being clear about the type of health outcome that is being sought – day-to-day, active promotion of health and a positive lifestyle, or a treatment option for a specific condition – is one prerequisite. The other is what type of connection with nature is desired (or possible). Ambient exposure to nature carries its own benefits, but there are also specific interventions that use an active connection to nature to achieve their desired outcome. This approach is well illustrated in Natural

England's publication *Good Practice in Social Prescription for Mental Health – the Role of Nature-Based Interventions*.¹⁰

Initiatives such as Dan Bloomfield's A Dose of Nature project¹¹ both articulate the benefits of contact with nature for specific conditions and outline local partnerships and commissioning structures which enable these interventions to be commissioned at scale within a locality. The University of Sheffield's Improving Wellbeing through Urban Nature research project,¹² in which the Centre for Sustainable Healthcare is a partner, is seeking to go a step further, investigating what levels of contact, with what types of green infrastructure, are most effective at delivering benefit to mental health.

As the evidence base achieves greater granularity and detail, so the case for commissioning green infrastructure interventions for specific health outcomes grows.

Investing in skills and capacity

Providing good-quality and accessible green infrastructure is a vital part of the jigsaw, but helping people to realise its potential is equally, if not more, important. We know that simple exposure to nature delivers an ambient benefit to wellbeing. Cleaner air, light exercise and the sense of detachment that accompanies a visit to a green space all impact positively on wellbeing. A conventional talking therapy session is likely to have a more positive impact if held in a green space rather than in a consulting room. However, the long-term therapeutic outcomes of green infrastructure interventions require a much more structured and systemic contact with nature, which in turn requires a specialist set of skills and experience to achieve.

Forestry Commission Scotland uses its forests to deliver ten-week programmes helping people with early-stage dementia to build social networks and coping strategies.¹³ Professional therapeutic provision organisation eQe OUTDOORS¹⁴ delivers outdoor therapeutic interventions supporting the education of children with special educational needs and disabilities. Outdoor activities are increasingly recognised as a vital part of caring for older people.

And this thinking is beginning to penetrate into the mainstream. In Cheshire, the Mersey Forest is leading a programme of 'health rangers' developed as part of its Natural Health Service programme.¹⁵ Oldham Council has invested in 'forest school leader' training for staff in its parks department to build their capacity to deliver health outcomes alongside their core parks service. Both of these initiatives are positive responses to the 'graph of doom', adapting core services to address the health and social care pressure.

Currently there is no 'core' accredited benchmark qualification for outdoor therapy. Practitioners typically use a tailored suite of forest school or outdoor learning techniques to achieve their outcomes. There is a

drive within the sector to bring forward a dedicated, accredited, outdoor therapy training structure, and delivering this will be a pivotal step forward for the sector.

The will to change

The killer question in all of this is: does society have the will and vision to make this change?

A huge proportion of our society remains wedded to a biomedical model of healthcare – a pill for every ill. The number of hospital beds is a key performance indicator in the public consciousness. Public health or preventative interventions are frequently cast in the light of 'for this money we could have x more nurses on wards'.

There is a natural tendency in commissioners, facing increased pressure on their resources through spending cuts and demographic change, to prioritise the tried and tested rather than invest in innovation. Without clear alternatives, clinicians will take the best decision on the options available to them. However, there is an often underestimated patient-led dimension as well. People want pills and potions. They have faith in the status quo, and in the absence of a concerted drive for widespread behavioural change they will continue to prioritise conventional clinical solutions.

Societal change takes time, but there are opportunities for increasing the scale of green infrastructure provision for health in the shorter term, and this is an area in which planners and designers of green infrastructure are well placed to respond. An outline understanding of local joint strategic needs assessments¹⁶ will give headline information on the key health priorities within a locality, and then cross-referencing this with resources such as the NHS Forest project's evidence section,¹⁷ the Rethinking Parks project,¹⁸ or the Green Infrastructure Partnership's Resource Library¹⁹ can readily stimulate ideas and debate within localities on where green infrastructure can support local health priorities, and on how to begin approaching this practically.

Precedents and pioneers are beginning to build up, with new models of green infrastructure management and delivery emerging in outposts across the UK. The Land Trust²⁰ and the increasing numbers of parks trusts and other intermediary bodies able to finance and manage green infrastructure in ways not historically possible are driving innovation within the sector, and are crucially doing so in a way that de-risks the wider public sector during this crucial phase of development.

Coupled with this is the inexorable rise of social prescription²¹ – direct referral of patients to community-based activities as an integral part of their care package – as a mainstream option for the management and treatment of complex conditions; and within this, in hushed tones, the term 'green prescription' is beginning to be heard. Models and

pathways through which commissioners and patients are connected to green infrastructure interventions are beginning to come to light, and in this way the cultural and organisational barriers to this pathway can be identified and tackled.^{10,11}

Accepting all this, however, there is no substitute for vision and political leadership. If we look north, NHS Scotland is working with Forestry Commission Scotland and Scottish Natural Heritage to create NHS Greenspace – ‘to promote better health and quality of life for people in Scotland through greater use of the outdoors for physical activity and contact with nature’.²² As recently as September 2017, the Scottish Government published *A Nation With Ambition*,²³ outlining its programme for 2017-18, embedded within which is a hard core of policy objectives that promote the link between green infrastructure and health.²⁴ In Wales, the Well-being of Future Generations Act²⁵ requires each authority to ‘improve the economic, social, environmental and cultural well-being of its area by working to achieve the well-being goals’ – a similarly powerful political statement. In England, the NHS and local councils’ sustainability and transformation plans have wholly missed the boat on green infrastructure.

But in the meantime if we can collectively begin to reposition the narrative of green infrastructure away from being part of the burden on the graph of doom, to part of the solution, that would be a mighty big step in the right direction.

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Notes

- 1 *Future Funding Outlook for Councils 2019/20 Interim 2015 Update*. Local Government Association, Jun. 2015. www.local.gov.uk/sites/default/files/documents/future-funding-outlook-co-18b.pdf. Key points summarised at www.local.gov.uk/future-funding-outlook-publication
- 2 D Bridle: ‘Graph of Doom: a bleak future for social care services’. *The Guardian*, 15 May 2012. www.theguardian.com/society/2012/may/15/graph-doom-social-care-services-barnet
- 3 *Public Parks*. HC 45. Seventh Report of Session 2016-17. Communities and Local Government Committee. House of Commons, Feb. 2017. <https://publications.parliament.uk/pa/cm201617/cmselect/cmcomloc/45/45.pdf>
- 4 *Five Ways to Wellbeing*. New Economics Foundation, Oct. 2008. http://neweconomics.org/2008/10/five-ways-to-wellbeing-the-evidence/?_sft_project=five-ways-to-wellbeing. Online summary presentation at https://issuu.com/neweconomicsfoundation/docs/five_ways_to_well-being?viewMode=presentation
- 5 ‘Infographic: how do our surroundings influence our health?’ Webpage. Health Foundation, Jul. 2017. www.health.org.uk/blog/infographic-how-do-our-surroundings-influence-our-health
- 6 ‘Green Gym – exercise to make a difference’. Webpage. The Conservation Volunteers. www.tcv.org.uk/greengym
- 7 See Groundworks’ Target Wellbeing website, at www.groundwork.org.uk/Sites/targetwellbeing
- 8 See Mind’s ‘Ecominds’ webpage, at www.mind.org.uk/ecominds
- 9 Adapted from DK Haubenhofer, M Elings, J Hassink and RE Hine: ‘The development of green care in western European countries’. *Explore*, 2010, Vol. 6, 106-11; J Sempik and R Bragg: ‘Green care: origins and activities’. In C Gallis (Ed.): *GreenCare: for Human Therapy, Social Innovation, Rural Economy and Education*. NOVA Science Publishers, 2013; R Bragg: *Nature-Based Interventions for Mental Wellbeing and Sustainable Behaviour: the Potential for Green Care in the UK*. Thesis submitted for the degree of Doctor of Philosophy in Environmental Sciences, University of Essex, 2014 (unpublished)
- 10 *Good Practice in Social Prescribing for Mental Health: the Role of Nature-Based Interventions*. Natural England, Jan. 2017. <http://publications.naturalengland.org.uk/publication/5134438692814848>
- 11 See the A Dose of Nature project website, at www.adoseofnature.net/
- 12 See the Improving Wellbeing through Urban Nature (IWUN) research project website, at <http://iwun.uk/>
- 13 See Forestry Commission Scotland’s ‘Forests and dementia’ webpage, at <http://scotland.forestry.gov.uk/supporting/strategy-policy-guidance/health-strategy/forests-and-dementia>
- 14 See the eQe OUTDOORS website, at www.eqeoutdoors.com/
- 15 See the Mersey Forest’s ‘Cheshire Natural Health Service’ webpage, at www.merseyforest.org.uk/our-work/cheshires-natural-health-service/
- 16 See *Joint Strategic Needs Assessment and Joint Health and Wellbeing Strategies Explained: Commissioning for Populations*. Department of Health, Dec. 2011. www.gov.uk/government/publications/joint-strategic-needs-assessment-and-joint-health-and-wellbeing-strategies-explained
- 17 See the Centre for Sustainable Health’s NHS Forest project’s ‘Evidence’ webpage, at <http://nhsforest.org/evidence>
- 18 See Nesta’s ‘Rethinking Parks’ project webpage, at www.nesta.org.uk/project/rethinking-parks
- 19 The Green Infrastructure Partnership’s Green Infrastructure Resource Library is available at www.tcpa.org.uk/green-infrastructure-research-database
- 20 The Land Trust’s website is at <http://thelandtrust.org.uk/>
- 21 See the ‘What is social prescribing?’ webpage of the King’s Fund’s website, at www.kingsfund.org.uk/publications/social-prescribing
- 22 See NHS Health Scotland’s ‘NHS Greenspace Demonstration Project’ webpage, at www.healthscotland.com/topics/settings/nhsgreenspace/index.aspx
- 23 *A Nation with Ambition: The Government’s Programme for Scotland, 2017-18*. Scottish Government, Sept. 2017. www.gov.scot/Resource/0052/00524214.pdf
- 24 S Cosgrove: ‘Nicola Sturgeon outlines range of green space, landscape and environmental policies’. *Horticulture Week*, 6 Sept. 2017. www.hortweek.com/nicola-sturgeon-outlines-range-green-space-landscape-environmental-policies/landscape/article/1443897
- 25 See the Welsh Government’s ‘Well-being of Future Generations (Wales) Act 2015’ webpage, at <http://gov.wales/topics/people-and-communities/people/future-generations-act/?lang=en>