A Dose of Nature in Cornwall:
Consultation Document for a Nature-on-Referral Service

Introduction.

The aim of this document is to consult with as many interested parties as possible about the creation of a 'nature-on-referral' service; a cost-effective, Cornwall-wide system for referring individuals to nature-based interventions to improve their health and wellbeing.

There is a whole sector, made up of environmental organisations, volunteer groups and professional practitioners, that already delivers these kinds of services. We want to make it as easy as possible for patients, other service users and health professionals to access those services. We want those services to expand and to thrive. We want to make sure that the sector can, in turn, contribute as much as possible to a reduction in health burdens.

To do all that, we need to write a robust and achievable plan. This consultation document is the first version of that plan. By the end of Summer 2017, we want to ensure that the plan incorporates the views of all key partners and sectors, and that organisations vital to its success have signed up to it in principle.

So we want to hear from you. We need to understand in detail both the capacity to deliver and the willingness to refer. We want to understand and address the needs and expectations of all those involved.

Who are we?

This plan comes from Cornwall Council, having been put together by staff within the Environment Service and Public Health. It has been written in close collaboration with the Cornwall & Isles of Scilly Local Nature Partnership & the Cornwall and Isles of Scilly Health and Wellbeing Board.

The work has been funded by an Innovation Internship Award from the Natural Environment Research Council, awarded to its principal author, Dr Dan Bloomfield (University of Exeter).

What is a nature-based intervention for health and wellbeing?

It is a therapeutic or treatment-based intervention, specifically designed for individuals with defined needs and aimed at realising the health benefits of being in an outdoor natural environment. This can include a wide range of activities, from care farming to wilderness therapy, but for the purposes of this plan the intervention is based on '***Nature Walking, and Nature+***'. It is a form of '***social prescribing***', whereby non-clinical interventions are recommended by doctors and other referrers, and where those interventions are usually designed, developed and delivered together with the users of that service.

Nature-based interventions (NBIs) sit within a broad set of health and care activities that may include lifestyle advice and health promotion initiatives. These in turn relate to a whole host of factors that constitute the wider determinants of health and wellbeing.

About this plan.

Diagram 1 shows the way we have approached this task. There are a number of starting points or '**inputs**', including the research that has already happened, existing models of referral and intervention, a look at the capacity of the sector, and how the idea fits different strategies. From these emerges the **process** of developing different models that work together; for how to fund, how to intervene, and how to deliver - and train people to deliver - the service. That is the point we reached with this consultation plan. After the consultation process we will start working on the **outputs**; the business plan itself and its related plans for governance, research, and monitoring and evaluation. Finally we want the service to contribute to key **outcomes** in terms of: individual health; health service delivery; and economic and social capital.

This plan has three sections. The first explains **why:** why this is an important and timely idea. The second explains **what**, and is split into two: what the delivery mechanism for the proposed service will be like; and what the actual service itself will involve. The third section recommends **how**: it lays out a detailed proposal for taking the work forwards.

1 Why?

Where has this idea come from, and why is it happening now?

1.1 Cornwall is already delivering some nature-on-referral services, but not in an extensive, sustainable or coordinated way. We need to do more.

Many organisations, projects and initiatives in Cornwall provide nature-based interventions, and have done so for a while. The high quality of the natural environment in Cornwall supports a strong and varied range of work.

There are a number of projects and partnerships relating to social prescribing in outdoor natural environments in Cornwall. For example, St Austell Healthcare has been pioneering this work alongside the care sector, via the **St Austell Social Prescribing Project**. In Penwith, Age UK and others have partnered the Clinical Commissioning Group to work across the health and care sectors as part of **the Living Well project,** to find new ways of helping people live the lives they want to live and to improve the range of activities available within adult care. Third sector organisations are also leading the way, for example: the **Eden Project's social prescribing work** that focuses on walking and horticulture; **Sea Sanctuary**, an organisation in Penryn that harnesses the benefits from the marine environment in its referral services; and **Surf Action** in Penzance, working with veterans.

The **Walking for Health** initiative, run by the Ramblers and Macmillan Cancer Support, has done a huge amount of work encouraging people to take action. As their evidence demonstrates, walking is highly cost-effective, generates long-lasting behaviour change, and inspires people who are inactive to start changing their lifestyles[1]. Walking for Health groups have been established in Cornwall, **for example in the Tamar Valley.** Evidence tells us that walking in groups in natural environments bring additional benefits compared to urban environments[2]. It is associated with significantly lowering depression and perceived stress, as well as enhancing positive affect and mental well-being, both before and after controlling for covariates. Walking, then, is an effective starting point for nature-based initiatives.

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[1] https://www.walkingforhealth.org.uk/sites/default/files/Walking%20works_summary_AW_Web.pdf

[2] http://www.mdpi.com/1660-4601/10/11/5603

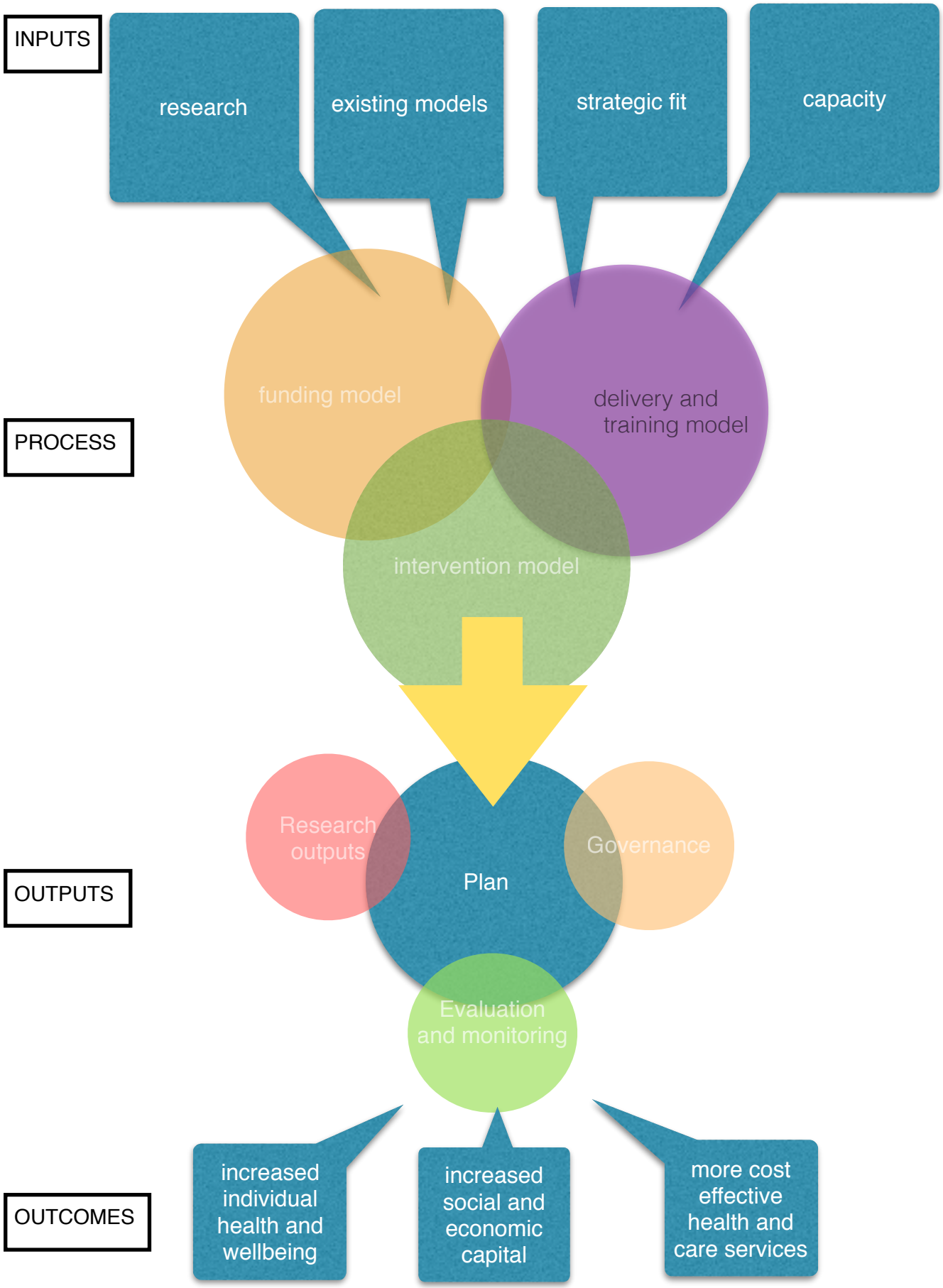

Diagram 1: planning for a nature-on-referral service

The strength of the sector, and the vast potential of Cornwall's natural environment, led to the **'A Dose of Nature'** project (www.adoseofnature.net), which ran eight nature-on-referral pilot projects between 2014 and 2016 in St Austell, Newquay, Wadebridge, Hayle/St Ives and twice in Roseland (and also in Exeter and Bristol).

A Dose of Nature Results

- 64 patient referrals
- 48 patients completing a programme of 10 to 12 weeks
- an average increase of 69% in self-reported wellbeing
- two new self-organised support groups created
- at least four patients signing up for further training, volunteering activities
- at least three patients reducing, or expecting to reduce, prescribed medicines

In addition, the vast majority of patients participating in the programme reported generalised benefits, including reduced anxiety and increased confidence:

"Its been a fantastic experience for me and I do hope in the future that instead of being a pilot scheme this will go on to become a more permanent thing."
Patient, Stennack Health Centre

"I suffer with mental health issues and it has helped me enormously; its kind of like a breath of fresh air in a way, you see things differently and you forget your worries for the day, which is good. Talking to others who have gone through similar experiences such as myself has also helped me very much with my mental health. All round it's been a definite benefit."
Patient, Bodriggy Surgery

However, despite all of the potential afforded by Cornwall's environment, and despite this past and current activity, Cornwall is in danger of slipping behind when it comes to nature-on-referral services for adult patients and care system users. Other projects have been fully funded and become established within the mainstream of social prescribing activities, providing tailored care for thousands of patients. Contractual agreements have been been made across whole cities (e.g. Leeds, Rotherham), and entire clinical commissioning group areas (e.g. Bromley-by-Bow, Dorset); even regionally (Mersey Forest). In Cornwall we have had small, local and piecemeal projects, without any central referring system or any core funding. The opportunity exists for us not just to catch up with work elsewhere, but to take a lead.

1.2 It is important to understand that nature-on-referral is underpinned by evidence.

Before we explain how Cornwall could take that lead we should establish the fact that nature-on-referral is an approach rooted in evidence and worthy of being an additional mainstream approach to tackling actual health and wellbeing problems.

We need to recognise that as little as 20% of health outcomes actually relate to clinical care; it has been estimated that 10% are due to the physical environment, 30% to health

behaviours, and 40% attributable to socio-economic factors[3]. Nature-on-referral is a form of social prescribing that responds to the influence of those wider determinants of health. In addition, work in this area is based upon a growing and substantial body of evidence that demonstrates that health inequalities are in turn heavily influenced by how much people have access to, and engage with, nature[4].

In particular there is evidence for a causal relationship between surrounding greenness and mental health in adults[5]. There is robust, peer-reviewed evidence concerning correlations with mental health outcomes and nature showing that:

- contact with nature relates to beneficial emotional states; reduced self-reported anger, fatigue, anxiety and sadness; and increased feelings of energy[6];
- compared to those undertaking other forms of outdoor exercise, participants undertaking exercise in green places report improved self-esteem and mood[7];
- greater access to green space is associated with less depression[8];
- individuals who move to greener areas have significantly better mental health in the three subsequent years after moving compared to their pre-move mental health scores[9]. Compared to when they lived in areas with less green space, people have lower mental distress[10]. Both of these findings are controlled for income, employment status, marital status, health, housing type, and local area variables such as crime levels.

The evidence extends beyond mental health and wellbeing. For example:

- there is a positive association between residential greenness and mortality, with effects greatest for cardio-vascular mortality[11];
- there is a positive association between exposure to natural spaces and obesity (i.e. reduced BMI)[12];
- access to natural spaces helps drive immunoregulation, vital for maintaining a healthy immune system and reducing the prevalence of inflammatory-based diseases[13];
- contact with nature has a significant impact on heart rate and blood pressure[14];

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[3] http://www.southwestforum.org.uk/sites/default/files/sitefiles/docs/3.briefing_documentuwe.pdf

[4] For good summaries see for example Defra's evidence statement of March 2017, at https://beyondgreenspace.files.wordpress.com/2017/03/evidence-statement-on-the-links-between-natural-environments-and-human-health1.pdf, and also the Institute of European Environmental Policy's extensive survey of August 2016 at http://www.ieep.eu/work-areas/biodiversity/nature-conservation-policy-and-its-implementation/2016/08/new-study-on-the-health-and-social-benefits-of-biodiversity-and-nature-protection

[5] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4410252/

[6] http://bmcpublichealth.biomedcentral.com/articles/10.1186/1471-2458-10-456

[7] http://pubs.acs.org/doi/abs/10.1021/es903183r

[8] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4430417/

[9] http://pubs.acs.org/doi/abs/10.1021/es403688w

[10] http://journals.sagepub.com/doi/abs/10.1177/0956797612464659

[11] https://www.ncbi.nlm.nih.gov/pubmed/26540085

[12] http://onlinelibrary.wiley.com/doi/10.1111/j.1467-789X.2010.00827.x/pdf

[13] https://www.ncbi.nlm.nih.gov/pubmed/24154724

[14] http://uknea.unep-wcmc.org/LinkClick.aspx?fileticket=kHZuV08uyEs%3D&tabid=82

- there is a positive association between the percentage of green space in the living environment and the prevalence of type 2 diabetes[15];
- specific natural environments such as woodlands, parks and farmland support vigorous physical activity[16];
- there is a significant association between residential proximity to coastal environments and the likelihood of achieving recommended rates of physical activity (source = footnote 8).

It is worth noting three further things about this body of research. First, that **much of the most compelling evidence is actually being generated by researchers right here, in Cornwall** (for example footnotes 3, 7, 8 and 9). The best evidence syntheses are also being produced by local academics (e.g. footnote 2). This is part and parcel of why the opportunity for developing a nature-on-referral services in Cornwall is such an important one.

Second, **Government departments are convinced of the need to act**. **Defra concludes** that:

> *"Rather than waiting until the evidence base is significantly more extensive, there appears to be a strong case for developing more integrated policy and practice across the health and natural environment spheres, with a strong emphasis on learning and evaluation to improve understanding of the most effective approaches and assess impacts. Such policies have the potential to deliver health and wellbeing benefits, and strengthen the case for protecting and enhancing the natural environment. It may be helpful to focus future efforts in a small number of pilot areas, because of the potential for integrating across a range of policy areas as part of place-based approaches at local and regional scales".*

Third, there are clear social benefits to encouraging more people to engage with nature. There is evidence that using nearby natural assets changes behaviour towards greater social cohesion[17]. When evidence further suggests that an effective **'dose'** of visiting outdoor green spaces for reducing the prevalence of depression and high blood pressure by 7% and 8% respectively is about 30 minutes or more during the week[18], then we need to ask how best to facilitate that kind of behavioural step-change.

1.3 The health system demands it. Not only does the evidence support the idea of expanding nature-on-referral services, but it is a solution to many of the current strategic concerns within the health, wellbeing and care system.

For example, the **Public Health Outcomes Framework**, which sets out the vision for public health and improving the wider determinants of health, measures the "utilisation of outdoor space for exercise/health reasons". It is also one of the **Marmot indicators,** used to measure and compare the social determinants of health and social inequality between local authorities. Local authorities and health commissioners must therefore take the way the local environment is used for health into consideration when planning their services (Cornwall has a score of 30.5, which is slightly above average for the region and the nation

[15] http://bmjopen.bmj.com/content/4/12/e006076

[16] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3591252/

[17] http://www.nature.com/articles/srep28551

[18] http://www.nature.com/articles/srep28551

as a whole; a figure to be expected for a rural area, but also one indicating there is room for improvement).

The **Social Value Act 2012** requires those who are commissioning services simultaneously to consider - and to secure - wider social, economic and environmental benefits. This is not easy, but a nature-on-referral service will help deliver that requirement.

The **NHS Constitution** includes the core principle of working in partnership with others. Amongst the requirements that it enshrines are: the right to person-centred care; the pledge to ensure a smooth transition with other agencies including the local authority; a pledge to identify and commission service innovations; a pledge for patients to be involved in planning their own treatment; and the emphasis on encouraging people to take responsibility for their own health. A well-designed service offering nature-based interventions on referral can assist in delivering against all of these requirements.

The Government's response to the **Five Year Forward View for mental health** makes it clear that local authorities, the NHS, public health professionals and a range of local stakeholders need to work together to develop behavioural change interventions, to improve and diversity mental health services. Using the natural environment is one tool in the box.

The NHS's **General Practice Forward View** indicates a need for greater collaboration between practices. Services such as jointly managed referral hubs can be one way of achieving this. The Forward View also recommends that in future general practice should: reduce patient flows via social prescribing; integrate the voluntary sector to support primary care services; develop local models of social prescribing; and redesign services to extend access to primary care. A well-designed nature-on-referral service can help with all of these goals, reducing pressure at the front line.

Most importantly, **general practitioners in Cornwall want to see these kinds of services, and to see greater choice within social prescribing in general**. A survey of Cornwall's GPs carried out in 2017[19] found that:

- 90% of GPs feel there is a role for social prescribing in their day to day work
- the most common issues that patients present with that are more 'social' than medical are: difficulties with housing and welfare benefits; mental health and wellbeing issues; and loneliness and isolation
- the greatest potential benefits to be obtained through social prescribing are: the empowerment of patients to take control; reduced pressure on health services through reduced attendance; and better integration with local community services
- there greatest challenge to the introduction of social prescribing is the long-term sustainability of the service.
- the most popular way to facilitate social prescriptions was by referral to a trained individual or 'connector' outside the GP practice.

[19] Dick B (2017) Social prescribing survey: Cornwall (personal communication)

1.4 Now is absolutely the right time to develop a nature-on-referral service in Cornwall, because it meets the goals of so many interlinked policies and strategies, in health, the environment and the economy.

The NHS directs those who are planning improvements in health and care services towards 'Where to Look' packs of data. **The Cornwall and Isles of Scilly Where to Look Pack** contains some very striking statistics:

Cornwall's health problems.

- Cornwall and IoS could save 35 lives per year if it performed as well as the best 5 of similar Clinical Commissioning Groups (CCGs) with regard to circulatory health; and 11 lives per year for respiratory health. Mortality is just the tip of the iceberg, and indicative of a potentially huge improvement in ill-health;
- reported to estimated prevalence of hypertension is 10,432, which is significantly worse than the average of the five best CCGs. Spend on the heart disease pathway that is non-elective (meaning that it cannot be scheduled) is another huge opportunity, as it stands at £1,180,000;
- spend on primary care prescribing for all mental health problems is £794,000;
- on the common mental health disorders pathway, Cornwall and Isles of Scilly is significantly worse than the average of the five best CCGs with regard to both referrals with measured outcomes to IAPT (Improving Access to Psychological Therapies - the national programme to increase choice and availability of talking therapies), and also the rate of IAPT referrals moving to recovery;
- the greatest potential impacts are arguably within the diabetes pathway in Cornwall and Isles of Scilly, where currently non-elective spend (£313,000), and figures both for patients with glycated haemoglobin and in receipt of treatment targets, are both statistically worse than the average best 5 CCGs.

It is very widely accepted that in order to tackle these issues we must focus, at least in part, upon the wider determinants of health, such as economic activity and environmental quality. Health initiatives sit within this context, and a nature-on-referral service is, in turn, part of that wider thinking (see diagram 2).

Nowhere is this clearer than within the **Cornwall and Isles of Scilly Sustainability and Transformation Plan.** The 'STP' will shape the future for health and social care services, setting out a vision to take us to 2021. It states that:

- the system is under enormous financial pressure. **NHS Kernow is facing a financial deficit of £264m by 2020/21 if we do nothing**. Key factors opening up this gap include the rapidly increasing demand for services, inefficiencies in how we work, variations in practice and a model of care which is heavily reliant on more expensive forms of care;
- the residents of Cornwall want to have access to services which enable them to maintain both their mental and physical wellbeing. They want opportunities to improve wellbeing and meet needs at less cost, by encouraging personal and community responsibility to enable people to keep fit and healthy. The STP therefore emphasises prevention, enabling self-care and delivery of integrated care in the community, via community-based delivery

and the integration of services, for example via the creation of care navigators or **co-ordinators to support people to have more choice** and receive the right care;

Diagram 2: the context for a nature-on-referral service.

- a radical upgrade in population health and prevention is required, which recognises the wider determinants of health and extends the responsibility for improving population health beyond 'traditional' health and social care services, including the environmental sector. A focus for change is physical activity and **using the natural environment, creating 'naturally healthy' green hubs**. These will promote activity for all ages in the natural environment and the health benefits of access to good quality green space. The aim is to achieve wider health outcomes including: more people in Cornwall will be more physically active as part of daily life, especially in the natural environment; and more people volunteering in the community, especially health and social care volunteering which can improve wellbeing and reduce social isolation;

- integrated care in the community is required, with **closer links between primary care and communities**, using associated voluntary activities to underpin connected communities that provide care and support;

- whilst strategy and service planning needs to happen at a Cornwall and IoS scale, delivery of the work (against the wider determinants of health, health and wellbeing improvement, prevention and self-care, and primary care) all need to happen both at the GP cluster and community network scales, to **ensure that that provision is tailored and community engagement is improved**, and at the level the individual, to ensure that personal responsibility for health and wellbeing is taken.

In summary, the health system in Cornwall intends to create a nature-on-referral type service, because it can help tackle health problem priorities and address the system's economic shortfall.

1.5 At the same time as the health services in Cornwall are setting out in this new direction, policies and strategies in other spheres are all pulling towards the same goal, and a nature-on-referral service is part of the answer.

Devolution.

This Plan can contribute to the successful delivery of the **Cornwall Devolution Deal.** In particular it can help integrate health and social care, and encourage people to take healthier, more sustainable transport options.

Inactivity.

It can help deliver the **Cornwall Physical Activity Strategy.** It will contribute to the target of making 50,000 additional people in Cornwall and the Isles of Scilly more active. The overarching principle of the Strategy is to create active built and natural environments. To do this it aims to bring together key partners to jointly promote, commission, coordinate and evaluate work that maximises the potential of the outdoor natural environment as a catalyst for physical activity. Again, the proposal within this document will help achieve this goal.

Economy.

There is evidence that exposure to nature decreases employees' stress and general health at work[20], and that simply providing encouraging information to employees can result in a doubling of the likelihood of them walking to work[21]. A healthier, less stressed workforce is of course a more productive one.

[20] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3072911/

[21] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1732165/

A nature-on-referral service, will also contribute to economic growth. An opportunity identified within the **Cornwall and Isles of Scilly Local Economic Partnership's Growth Strategy to 2020** (priority 4) is ***'to use of the natural environment as an economic asset and as a means to develop environmental growth'***.

Environment.
Cornwall is leading the way in this regard through the production and implementation of its hugely innovative **Environmental Growth Strategy**, produced by the Local Nature Partnership. The link between healthy people and environmental growth is written throughout the document, in terms of people's experiences and also in terms of understanding, valuing and increasing natural capital. The target for Cornwall 'to be a happy, healthy place to be' includes the requirement that there be ***"a health and social care system that includes interventions and services based on nature"***. This tracks to a specific measurable indicator of progress, numbered 2e; "***number of practitioners providing natural health interventions"***. Consequently the development of a nature-on-referral service, or 'naturally health hub', is part of the 2017-18 implementation plan.

The **Cornwall Area of Outstanding Natural Beauty Management Plan** contains an entire section of polices relating to health and wellbeing, included Policy HH3 ***"provide for physical activity and volunteering opportunities within the AONB that will enhance the landscape, biodiversity, heritage and access whilst improving people's mental and physical health and life chances and reducing health inequalities"***. Other polices aim: to find alternative sources of funding including accessing mainstream health budgets for activities that move from cure to prevention (HH4); to improve links with the health sector, Sports Partnership, academia and the Health and Wellbeing Board to meet the potential (HH5); and to assist in the delivery of outcomes within the Health and Wellbeing Strategy (HH8). The proposed nature-on-referral service can help deliver against all of these policy objectives.

In summary, we propose a nature-on-referral service because it is a means by which Cornwall can deliver against all of these strategic goals. In particular, it can help deliver the specific goal in the Implementation Plan of the STP, namely:

- **in 2016/17, the research and innovation phase of a 'nature and health hub', and the appointment of capacity support for community and voluntary sector for place based pilots;**

- **in 2017/18, the implementation of an innovative environment and health programme co-produced with the Local Nature Partnership and the community and voluntary sector.**

We now want to lay out the actual service that this programme should deliver to individuals, and the means by which it should do so.

2 What?

What should we aim to deliver, where, and with whom?

Aims
We want to make the most of the variety of knowledge and experience that is already present in Cornwall, and design and deliver a service that:

- is **ambitious**, so that eventually patients and clients can be referred from across the whole of Cornwall and the Isles of Scilly;
- ensures **fidelity and reproducibility**, so that the the service's quality, essential content and basic structure are all consistent;
- remains **flexible** enough to be delivered in different localities and varying types of environment;
- is **rooted in best practice** and supported by the best available evidence;
- is **measurable** in terms of health, wellbeing, social, economic and environmental impacts;
- is **cost-effective**;
- is as close to **universally achievable** for individuals as possible;
- is **simple, understandable and attractive** to the widest possible number of patients and other service users;
- can **accommodate referrals from multiple sources**, including health practitioners, employers and self-referrers;
- can **become self-funding**, by charging some client groups (e.g. self-referrers, employees), or by attracting funds from additional sources.

2.1 The actual service.

Nature-based interventions take many different forms. The most recent and comprehensive typology[22] includes: therapeutic horticulture; care farming; ecotherapy (environmental conservation as an intervention); animal assisted therapy; 'green' or 'blue' exercise; wilderness therapy; nature-based art and craft therapy; and eco-psychotherapy.

In Cornwall there are existing projects and practitioners whose work includes elements drawn from most, if not all, of these different kinds of nature-based intervention. At the same time there are broader services, directed not at individuals but to the general population, for example encouraging the use of the natural environment and outdoor activity. This latter category includes work by Public Health, Cornwall Sports Partnership and Cornwall Wildlife Trust.

We want to deliver a service that addresses all the strategic policy needs we have already discussed. We want one that meets the aims listed above without losing any of the wealth of knowledge and experience in Cornwall's different projects and practitioners. To do all that we can model the intervention on the fundamental characteristics that they all the have in common. All nature-based interventions ask patients and clients to be in nature, engage in nature, and move in nature. We can simplify this by designing a two-tiered model, which we call "**Nature Walking, and Nature+**".

[22] http://publications.naturalengland.org.uk/publication/5134438692814848?category=6502695238107136

Nature Walking

- the basic intervention is not merely walking. It is neither 'just' a social activity, nor is it nature engagement alone. It is the synergy of these things combined.

- the intervention will run for 12 weeks duration, and involve a minimum of 2.5 hours activity per week.

- the intervention will be delivered in group settings.

- the intervention will be based upon walking in nature; practitioners / group leaders will decide routes in liaison with patients and environmental asset managers. For some, walking might mean just a few metres, around a park, garden or similar site. Some may be wheelchair users. For others it may involve more extensive walks.

Nature+

- following further liaison with serve users and referrers, practitioners / group leaders can include additional activities to enhance the experience, so that the intervention becomes 'Nature+'. This may involve such things as: the study or appreciation of natural sciences such as ecology or botany; suitable conservation or horticultural activities; meditative or therapeutic elements; creative / artistic activity; or physical activity based in 'green' or 'blue' environments.

Who will it be for?

Patients / service users (free at the point of service)

- The key eligibility criteria for patients to participate in the nature-on-referral service shall be that the referrer considers it to be potentially useful for that patient (i.e. this is a service in addition to, not instead of, existing primary care services).
- The focus will be on adults with long-term conditions and/or with mental health concerns.
- In designing, developing and promulgating the service we will seek advice from patient engagement groups, patient support groups, health service user representatives and disease-specific support groups.

Other participants (charges apply)

- We want to allow employers to encourage employees to join nature-on-referral groups.
- Groups could also be open to self-referral clients.

What will be the referral process?

Patients / service users

- A referral could be made from a general practitioner, practice nurse, community mental health team member or Any Qualified Provider via the IAPT provision.
- This could readily be extended to include social workers, care managers, housing officers and others.
- A referral could be made either directly via a surgery's online referral system, or by using a form provided by post, email or online.

Patients / service users, plus other participants

- All participants will be provided with an explanatory leaflet and a link to the website.
- All will then receive follow-up contact from link worker who will explain the process.
- All will have an initial meeting or phone conversation with the local **practitioner / group leader** who will discuss the intervention in detail, joining arrangements, and who will complete survey questionnaires.

Who will run the Nature Walking / Nature+ Groups?

Practitioners / group leaders.
There is no single accreditation for nature-based interventions specifically, or social prescription providers generally. This is a strength. However organisations - irrespective of their size, prime focus or legal constitution - will:

- be able to demonstrate a track record of engagement with local communities;
- be able to demonstrate expertise or experience in interpersonal or group dynamics;
- be able to impart knowledge of, and insight into, the natural environment;
- be able to carry out risk assessments;
- carry professional indemnity insurance;
- be willing to join service training courses, and contribute towards their development;
- be able to carry out confidential questionnaires and administer the data;
- sign up to timely and regular audit.

The responsibility for accepting a patient / client into a group will lie with these practitioners and group leaders. Only they will have the necessary in-depth knowledge of the group's activities and dynamics, and only they will be able to assess the capacity of the group. Practitioners / group leaders will liaise closely with the link worker and referrer to help meet the needs of each individual, if for any reason they cannot be accepted into a group.

When will Nature Walking / Nature+ Groups run?

Experience has demonstrated that nature-on-referral activities can run at all times of the year, and indeed anecdotal evidence in Cornwall suggests that the greatest benefit to overall wellbeing is likely to accrue in the winter months.

However, some practitioners / group leaders may not wish to run activities below a certain group size. Although waiting times should be kept as short as possible, practitioner / group leaders should be given some discretion to delay the start of the intervention if they feel it is necessary.

Where will Nature Walking / Nature+ Groups run?

The sites where nature-on-referral activities take place will need to:

- be managed wholly or in part for nature;
- contain sufficient flat and/or gradually inclining paths (a minimum guideline of 100m);
- have sufficiently accessible safe parking provision;
- be located in an area readily accessible to one of the target areas.

Target areas.

We will focus delivery in communities that have the greatest need. We have examined in detail **Cornwall's Community Network Area** data, the **local community health data**, and compared it to accessible areas of environmental quality (including the **Area of Outstanding Natural Beauty**). As a result we would deliver the service, in the first instance, in and around:

- St Austell and the Clay Country
- Redruth
- Bodmin
- Falmouth
- West Penwith

We would like to see the service expanded to everyone in Cornwall; this ambition is best achieved by working outwards from an initial set of project areas. In this way the service can be grown, in a scaleable and reproducible manner.

2.2 The delivery mechanism.

We have laid out the kind of service we want to provide, but what is the right vehicle for doing so? As already mentioned, a nature-on-referral service is an example of social prescribing, a means to engage patients with non-clinical support services within the community. Increasing choice in this way only happens if the appropriate investment is made to create the required infrastructure[23].

Models of delivery.

Although each example of providing nature-based interventions on referral is slightly different, when we look at them in detail certain common features emerge[24]:

- **scale**: the vast majority provide services over one clinical commissioning group area;
- **joint working**: all are partnerships operated jointly by primary care and the third sector, but delivered by third sector;
- **target patient group**: in the majority of cases, patients have 'generalist' needs, or 'generalist plus mental health';
- **motivation**: the majority of initiatives were started in order to widen the range of referral opportunities available to patients;
- **funding**: the vast majority of comparable projects are funded by the relevant Clinical Commissioning Group, although what is actually funded - the referral process or the service - varies. Funding does not follow the patient.

However, beyond these common features, the nature-on-referral initiatives that are running vary a great deal in terms of their key characteristics. We can describe three broad types:

DIRECTIVE

A service focussed on signposting patients towards advice, information or service providers.

CO-ORDINATED

A service focussed on providing a tailored interventions.

ENHANCED

A service based on substantial investments as part of a wider social prescribing initiative.

In the Annex to this Plan we describe the varying features of these three types in some more detail, comparing them against a range of factors including: delivery; governance; funding; training elements; evaluation, monitoring and research; and the scale of their overall impact. A summary of those findings are provided here.

In Cornwall and the Isles of Scilly we currently have, at best, some elements of a Directive model. However, it is not provided in any concerted or co-ordinated way. To deliver the proposal within this document we need a Co-ordinated type service, and one that has the ambition of being as good as the most advanced, Enhanced models in the country.

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[23] From NHS Health Education England - see https://www.hee.nhs.uk/sites/default/files/documents/Social%20Prescribing%20at%20a%20glance.pdf

[24] http://publications.naturalengland.org.uk/publication/5134438692814848?category=6502695238107136

Delivery

- Through a dedicated **link worker** who will co-ordinate the service, supported by an **interactive web presence** and **printed materials** (which when taken together constitute the 'hub' for the service).
- The dedicated website will also host: a research portal; a space for practitioners / group leaders to share experience and insight; links to other social prescribing opportunities; and patient narratives.
- The link worker will put each individual in touch with local practitioners / group leaders, manage **data**, feed back to referrers, manage **training courses,** and perform other tasks to ensure a smooth delivery of service.
- The link worker will also signpost individuals as necessary to **general advice and information**. The service will also feed back on these public health messages and products, ensuring that they are continually refined and improved.
- the service will also provide a minimal-cost **'maintenance' programme**, to assist patients post-intervention should they wish to continue activities either alone, together or to mentor others.
- the service will include follow-up survey at +six months and at +one year.

Governance

- A core Steering Group that will represent public health services, clinical services, patient interests, the environmental sector and research expertise.
- A contractual arrangement between commissioners and the hub service provider.

Funding

The funding requirement will be made up of two elements:

- the costs of the referral coordinating hub, including salary, overheads, materials and website;
- costs associated with the service delivery (per patient / service user, based on standard prescription charge).

Training

- A service of this kind will be able to provide training modules for practitioners / group leaders. This will ensure that that a base level of service is provided throughout the whole project. It will also allow patients and other participants to shape the development of the service.
- In addition a training module for referrers and commissioners can be provided, ensuring that the service meets their needs whilst also expanding knowledge of, and confidence in, the service.

Evaluation, monitoring and research

A service of this type can ensure improvement through monitoring and evaluation, and measure effect and efficacy by collecting both qualitative and quantitive data.

Evaluative data to be collected

- medication prescriptions
- depression and wellbeing scores (e.g. HAD, PHQ-9, WEMWBS)
- GP visits
- Outpatient referrals
- Patient-rated quality of primary care experiences
- demand for mental health support
- changes in employability / employment
- reduction in claimed benefits
- QALYs
- inactivity rates
- physiological data (blood sugar control, blood pressure, obesity)
- levels of social isolation

Impacts

As we collect data for evaluation and monitoring, we will also collate patient, practitioner and referrer narratives. Combined, all of this information will give us a full picture of the **impact** of the service, both in terms of *outputs* and in terms of longer lasting *outcomes*.

We will expect to see, and to measure, positive impacts in terms of: individual health and wellbeing; social and economic factors; environmental gain; and improvements in health service economics.

A note on cost savings and return on investment.

The most recent evaluations of nature-based interventions for health and wellbeing (see **this Natural England report** and **this report from the charity Mind**) demonstrate a number of cost-effectiveness measures:

- reductions in outpatient admissions of up to 21%
- reductions in GP contact times of up to 60%
- 83% of participants experiencing positive change in at least one measured wellbeing outcome
- A cost saving of up to £8,600 per Quality Adjusted Life Year (QALY), which is considered 'highly cost effective' for a health intervention by NICE benchmarks
- An initial return on investment of between £1.41 and £3.38 for every £1 invested, plus a further reduction on overall NHS costs avoided for three full years of between £0.78 and £0.85 per £1 invested, providing a overall figure of £3.12.

3 How?

We propose establishing a nature-on-referral service based on the intervention and delivery mechanism described above, which we call **"A Dose of Nature in Cornwall"**. It will be ambitious in its scope, bringing Cornwall to the fore in the terms of nature-on-referral schemes around the country.

A Dose of Nature in Cornwall
Features

- co-designed and co-delivered with patients
- a limited funded project for two years, with the ambition of diversifying income to become sustainable after that time
- to target services in priority areas, with the aim of phased implementation to all of Cornwall in the future
- including an integrated training element to build and maintain sector capacity

Scale

Based on existing capacity and (over-)subscription in and around our target areas we think that the following scale of service delivery is achievable:

Per annum targets

- an average of 30 people completing a Nature Walking / Nature+ course being referred from each GP surgery in the target areas
- 20 people completing a course referred via other routes within each of the target areas
- 530 people completing a course in total
- 12 Nature Walking / Nature+ Groups newly established
- 10 existing groups receiving additional referrals

Costs

We can suggest here some indicative costs for a two year project. These are provided at this stage to aid discussion about the scale of the service and to produce an indicative return in investment.

- To run the hub: £84,000
- Intervention cost based on standard prescription charge: £53,000

- Private income from fee-paying participants £10,000
- Funding gap £127,000

Return on investment
If a funding investment of £127,000 was made, with an average ROI of £3.12 over three full years per £1 invested, this yields a dividend of £396,240.

Forecast impacts against cost-effectiveness measures
This financial saving would come from a range of outputs and longer-term outcomes, some of which cannot be estimated because they would depend on which sites were being used. So these expected results are indicative only, and are provided to enable a debate around the proposed scale and focus of the service. Nonetheless, and given the information we have at this point from pilot studies in Cornwall as well as elsewhere, we would expect to see, over the course of two years:

- Up to 320 fewer GP visits
- Up to 110 fewer hospital visits and/or referrals to other secondary care services
- Up to 33 long-term courses of repeat prescriptions ceasing completely
- Up to 140 fewer prescriptions overall
- c. 345 patients / service users reporting improvements in wellbeing scores
- Up to 40 individuals either coming back into employment or improving their employability through completing of training modules (a potential reduction in the benefits bill of around £140,000)
- A number of sites improved for wildlife

Delivery
- Employing a dedicated link worker to co-ordinate the service and run the hub
- Training led by suitably qualified and experienced Cornwall-based practitioners, based on existing modules
- Hub service to be delivered through existing provider (for example, via **Kernow Health CIC** and the **Community Education Provider Network**)
- service provision by existing practitioners and partners, e.g. via the already-registered Changing Lives CIC partnership.

Management
- Management could be jointly led by: **NHS Kernow Clinical Commissioning Group** and/or the Sustainability and Transformation Plan Board on the one hand; and Cornwall Public Health / Cornwall Council on the other.
- Steering group with representation from Cornwall and Isles of Scilly Health and Wellbeing Board, Cornwall and Isles of Scilly Local Nature Partnership, researchers (e.g. **European Centre for the Environment and Human Health**) and patient representatives (e.g. **Cornwall Healthwatch**)

Funding and sustainability
- Initial funding would need to come from management partners.
- Increased funding for intervention providers to be explored in first year (for example via Social Impact Bond, Health and Wellbeing Challenge Fund South West, NESTA, Social Enterprise Investment Fund, National Lottery, Crowdfunder, charitable trusts), as well as increases in charge-paying participants, so that the service becomes self-sufficient after two years.

Risks

There are risks associated with not taking this approach. At the most strategic level the risks of not doing anything are:

- that the relevant goals in the implementation plan of the STP will not be achieved
- that Cornwall and Isles of Scilly will fall behind current best practice in this field
- that we will fail to use our natural environmental assets to reduce current and future health burdens in any concerted or systematic way.

Beyond these strategic risks we also need to consider whether we have identified the right way forwards, whether we have described the right intervention model to be deployed in the right areas. The risks include:

- that we fail to deliver the kinds of impact and return on investment that we want
- that we have failed to forecast patient recruitment levels accurately.

4 Now we want to hear your views.

We have proposed a way forwards that we consider achievable and ambitious. Similar projects elsewhere have secured funding at a larger scale, but with proportionate outputs relating to their population size (for example, the Mersey Forest Natural Health Team have recently secured a £500,000 contract from the CCG to deliver nature-on-referral services). Others are also moving ahead (for example Dorset CCG / Dorset Public Health have recently appointed a link worker to deliver their Natural Health Service across the county). We can catch up, but we can also take a lead by being innovative, targeted and by using the expertise we have at our doorstep.

However before we produce a final version of this plan we want to hear your views.

Questions for everyone.

Q1. Is the proposal for a nature-on-referral service (as described in section 3) achievable? If you consider it to be too ambitious, or not ambitious enough, then how might it be improved

Q2. What do you think about the proposed intervention (Nature Walking / Nature+)?

Q3. Does the proposed service focus on the right patients and service-users? Have we missed anyone?

- If you are potentially a referrer to the nature-referral service, please answer questions 4 to 8.
- If you are a practitioner of nature-based interventions and an existing or potential Nature Walking / Nature+ group leader, please answer questions 9 to 12.
- If you own or manage environmental sites and other assets that could function as venues for Nature Walking / Nature+ groups, please answer questions 13 to 15.
- If you are a potential recipient of nature-on-referral services, please answer questions 16.

Questions for potential referrers.

Q4. If you would be happy to refer people (patients / care system users / employees) to the nature-on-referral service as it is described in this document, what benefits would you expect, or hope, to see? If you would not be happy to refer people, why?

Q5. Do you work within the target areas (St Austell / Clay Country; Redruth; Bodmin; Falmouth; West Penwith)? If not, would be willing to refer patients to groups in these areas if that was a practical option?

Q6. How many referrals do you estimate you could make per month?

Q7. What concerns, if any, do you have about such a service?

Q8. What kinds of data or information would you expect to receive back from this service?

Questions for potential practitioners / group leaders.

Q9. If you are willing and able to deliver Nature Walking and/or Nature+ groups as described in this document, how many referrals per month do you feel you can take? If you are not willing and able, why not?

Q10. Can you describe the degree to which you already have working relationships with GPs and other potential referrers?

Q11. Where in the target areas (St Austell / Clay Country; Redruth; Bodmin; Falmouth; West Penwith) could you help deliver these services?

Q12. Do you have the capacity currently to help deliver the service, or do you need more staff and/or volunteers?

Questions for environmental asset owners / managers.

Q13. If you feel that you would like to be involved in this service, what would you hope or expect to see change about the natural environment for which you are responsible? If you would not like to be involved, why?

Q14. Do you have any concerns or caveats about participating?

Q15. At which sites in and around the target areas (St Austell / Clay Country; Redruth; Bodmin; Falmouth; West Penwith), would you be able to help us deliver this service? Do they meet the site criteria laid out in section 2.1 of the document?

Questions for potential recipients of nature-on-referral services.

Q16. If you would you be willing to join a Nature Walking / Nature+ group, what would your expectations be? If not, why?

How to respond
Please complete the online questionnaire at:

http://bit.ly/2qiU3iX

If you have additional questions or comments you can also contact us directly by emailing **d.bloomfield@exeter.ac.uk**

Please provide you responses by **17:00 on July the 10th 2017**

Annex - nature-on-referral models

Three broad types of intervention delivery can be teased out: Directive, Co-ordinated and Enhanced. These three models have implications in terms of delivery, governance and funding, as well as their capacity to support training and evaluation. They are also likely to deliver different degrees of impact in terms of health, costs and environmental outcomes.

Delivery

Research suggests that best practice in the delivery of nature-on-referral social prescribing is one that supports patients and facilitates the transition from a clinical to a non-clinical setting[25]. General practitioners, though crucial, are not always best placed to make those referrals as others (practice nurses, clinical psychologists, family therapists, housing and social workers) may be in a better position to make that connection[26]. Using nature as a means to improve health problems, particularly mental health problems, requires requiring co-ordination with medical, social and community services in the round[27].

DIRECTIVE

Through an online directory, with signposting to other phone numbers or websites. Geared largely towards self-referral, though health workers can direct. The service centres on providing advice and/or health promotion information. Can be kept 'in house' within the health and care sector.

CO-ORDINATED

Through a dedicated link worker, supported by a web presence. Signposting to advice and information AND referring to tailored services. Can support self-referral, but geared towards referral from primary care health workers. Service managed by health and care sector AND third sector.

ENHANCED

Referral from primary care health workers and others (e.g. community pharmacists) either to link worker(s) or direct to third sector providers. Possibly involves a dedicated physical office. Electronic referral form. Health providers directly commission services from the third sector.

[25] From Nesta - see http://www.nesta.org.uk/publications/more-medicine-new-services-people-powered-health

[26] http://www.scie-socialcareonline.org.uk/social-prescribing-a-review-of-community-referral-schemes/r/a11G000000CTEGcIAP

[27] https://ore.exeter.ac.uk/repository/handle/10871/24523

Governance

DIRECTIVE	CO-ORDINATED	ENHANCED
Simple. Could be delivered 'in house', for example alongside - or as part of - the Public Health Information Line.	Relatively simple. Would require a steering group that represents public health, clinical service, patient and environmental expertise. One contractual arrangement between commissioners and central coordinating service provider.	Relatively complex. Would require a memorandum of agreement between multiple service providers and commissioners, as well as a contractual arrangement with a central coordinating service provider.

Funding

DIRECTIVE	CO-ORDINATED	ENHANCED
Low cost. Funding the signposting / referral service only. No link worker (directed direct to service provider).	Low to medium cost. Funding the referral service only, and contributing to the intervention costs. One link worker / coordinator employed.	High cost. Funding the referral service and the interventions (e.g. through grants). Multiple link workers employed.

Training

DIRECTIVE	CO-ORDINATED	ENHANCED
No budget for training.	Potential to provide training module to service providers, and to establish a base level of capacity and intervention fidelity.	As for 'co-ordinated' service, but with additional scope to provide training as part of ongoing CPD to staff from referring as well as service providing backgrounds.

Evaluation, monitoring and research

Measuring improvements in wellbeing, especially through social prescription type interventions, is an inexact science and at an early stage. However, the highly influential **What Works Wellbeing** group, based at the London School of Economics and working across government, evaluating wellbeing improvement (weighted for inequalities) per unit of expenditure, and converting this data

into life satisfaction scores that can be compared and contrasted with other policies across the board[28].

To achieve this it important to measure the right ***proxies;*** data that can equate to improvements in generalised life satisfaction. Ongoing nature-on-referral initiatives measure a range of things, including:

- medication prescriptions
- depression and wellbeing scores (e.g. HAD, PHQ-9, WEMWBS)
- GP visits
- hospital visits
- Outpatient referrals
- Patient-rated quality of primary care experiences
- demand for mental health support
- changes in employability / employment
- reduction in claimed benefits
- QALYs
- inactivity rates
- physiological data (blood sugar control, blood pressure, obesity)
- levels of social isolation

This is not a complete list, by any means. It is a mixture of quantitive and qualitative data, which indicates that data will need to be captured in multiple ways, including through patient narratives. This is one of the reasons by patient engagement in the project would be so important to its success.

Independent evaluation not only allows for service improvement, but also for potential research projects with suitable academic institutions. The ongoing partnership with the University of Exeter could be developed further in this regard.

Monitoring and evaluation is crucial to secure data for the patients that take up offers of interventions after referral, and for the patients who see interventions through to completion.

DIRECTIVE

Provides little or no scope for monitoring, evaluation or research.

Difficult to ascertain levels of patient rates or overall numbers, and thus measure efficacy.

CO-ORDINATED

Monitoring and improvement can be built into operation from beginning. Qualitative data readily collectable at point of referral and at post-intervention follow-up. Qualitative data could be collected with referrer and patient permission.Could support co-designed research projects.

ENHANCED

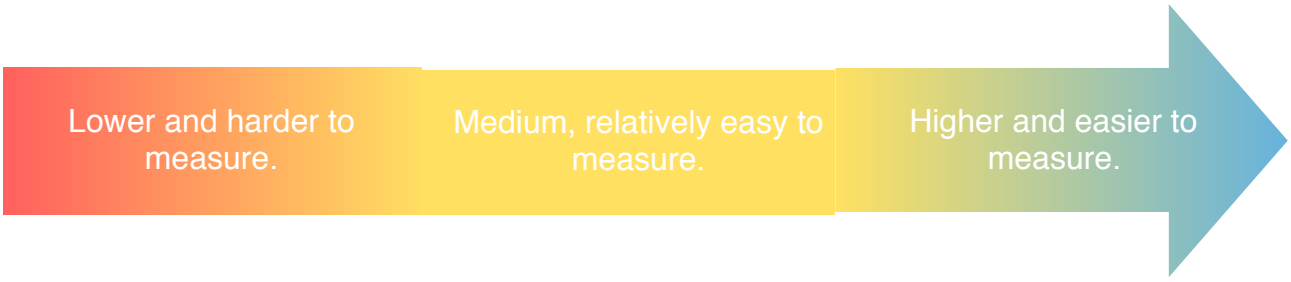
As for a 'co-ordinated' model, though there may be scope for larger patient cohorts, and evidence suggests a better rate of patient participation post-referral.

[28] https://whatworkswellbeing.files.wordpress.com/2016/08/common-currency-measuring-wellbeing-series-1-dec-2016.pdf

Impacts

How might these different model categories of nature-on-referral projects have an impact on the kinds of changes we want to see happen? The literature does not support detailed comparison, as the review of current best practice to date is based on case studies, and circumstances vary considerably. However the literature does indicate what we could broadly expect to happen. We have enough information to intuit broad directions of travel.

Another reason for not enumerating impacts at this stage is that obviously the scale of impacts depends not just on the approach taken but on the scale of the project itself. For example, a simple project based on the Directive model may involve may more referrals, but possibly fewer patients actually completing intervention courses.



Similarly, a service based on, say, fitness exercise outdoors may have a greater impact on individual health that an arts-based or meditative focus, but it may attract fewer course-completers overall and this have a potentially lesser impact on the wellbeing of the population as a whole.

However, as we move from a more Directive service, through a Co-ordinated model, and towards an Enhanced kind of service, we can expect[29]:

- the referral process to be more flexible;
- the referral process to involve more contact between link worker(s) and patients;
- the intervention options and the information made available to patients to be more tailored to individual needs;
- practitioners and service providers to share best practice and to maintain and improve their skills;
- patients, service providers and referrers to have a greater degree of overall trust in the system.

As a result, patients are more likely to believe that the service will be of use to them, and also more likely to be able to access them in the first place. We would therefore expect a greater **impact on patient health and wellbeing**, with patients making longer-lasting beneficial behaviour changes, as we move from a Directive towards an Enhanced model.

Evidence to date (from the Dose of Nature pilots and from other case studies, see Note on cost-effectiveness and return on investment in the box above), indicates that a service that puts local people in touch with each other in a tailored, facilitated way is much more likely to see patients organising their own continuing activities and, ultimately, move towards the self-management of their health. As a result we would expect to see, as we move in the same direction, a greater likelihood of patients forming the kinds of relationships that result in the take up of further training or educational opportunities, for example with practitioners and environmental asset managers. This in turn would have a increased beneficial **impact on overall social capital and connectedness, as well as on employment, employability and productivity**.

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[29] To read about these expectations in greater academic detail, see the published protocol for the systematic review currently being carried out by researchers at Plymouth and Exeter universities for the National Institute of Health Research - more information at http://systematicreviewsjournal.biomedcentral.com/articles/10.1186/s13643-016-0269-6/open-peer-review

Because the costs associated with delivering the service are low, it may at first seem that a Directed model of service yields a more attractive return on investment. However, the **impact on costs** is likely to be be far greater as one moves towards a Co-ordinated or Enhanced type service, because the patient adherence levels are likely to be higher, the likelihood of securing long-term changes to behaviours deleterious to health is greater, and the reduction in the reliance upon, and use of, primary care services is likely to be higher.

It is harder to elucidate what expectations can be made concerning **impact on the natural environment** as it depends so much on the activities involved. Some nature-based interventions involve practical conservation tasks, including tree planting, brush cutting and pond clearing. However the majority of projects involve lower-intensity activities, such as walking, mediating and crafts-based work. However we might reasonably expect participants in such activities to increase their connected to nature, improve their environmental awareness, and increase their understanding of the value of a healthy natural environment to them and to their communities. We might expect a greater number of visits to nature reserves, for example, or a more volunteering for local environmental charities. Though the literature is sparse, these are the kinds of questions that could be answered via a well-designed research project integrated with the roll out of the service.