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# Supporting 'blue care' through outdoor water-based activities: practitioner perspectives

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## ABSTRACT

There is growing research into the links between blue space encounters, human health and wellbeing, and increasing interest in prescribing nature-based activities to promote physical activity, enhanced mental health and social wellbeing. However, less clear is the readiness of community-based organisations to be involved in these prescription pathways. The aim of this study was to examine perspectives of outdoor water-based practitioners concerning opportunities to engage in such blue prescription pathways, and the likely challenges of doing so. An exploratory, in-depth qualitative approach was used, including eight semi-structured interviews with outdoor, water-based activity practitioners in the south west of England and Ireland. These were analysed using an inductive thematic analysis approach. The interviews highlighted key skillsets and material, social and affective resources required by such practitioners to enable blue care, managing social and environmental risks amongst participants of these activities to maximise opportunities for health and wellbeing, and tailoring activities to the needs and priorities of participants from diverse backgrounds. While there is potential to promote health and wellbeing through blue prescribing, there are a number of unresolved resource, quality assurance and training-related considerations to address before such interventions could be scaled up.

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## KEYWORDS

Blue prescribing; blue space; blue care; qualitative; South west England

## Introduction

Since the 16th century, there has been scientific interest in the health benefits of 'blue space' environments. Early studies examined the chemical composition of inland waters and later the salutogenic potential of seawater bathing (Gesler 2003; Volker and Kistemann 2011). Although the growth in biomedical healthcare from the mid-20<sup>th</sup> century prompted the decline of such 'treatments', recent years have seen renewed interest in the public health benefits of time spent in/near 'blue spaces' (White et al. 2013, 2014, 2020). In this work, blue spaces have been defined as 'health-enabling places and spaces, where water is at the centre of a range of environments with identifiable potential for the promotion of human wellbeing' (Foley and Kistemann 2015, 157). Benefits identified include the promotion of physical activity (White et al. 2016), opportunities for pleasurable embodied immersion (Foley 2017; Straughan 2012; Throsby 2013), a sense of belonging (Gould, McLachlan, and McDonald 2020; Moles 2020), and enhanced social and mental wellbeing (Bell et al. 2015; Costello et al. 2019; Denton and Aranda 2019).

While there is growing awareness of these potential health and wellbeing benefits, there is less understanding of how such benefits can be promoted through deliberate 'blue care' interventions,

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defined here as 'blue space interventions, pre-designed activities or programmes (typically physical) in a natural water setting, targeting individuals to manage illness, promote or restore health and/or wellbeing for that group' (Britton et al. 2020, 51). Exploratory research suggests therapeutic potential through aquatic immersion. For example, in the context of surf therapy programmes amongst military combat veterans, Caddick, Smith, and Phoenix (2015) identify surfing as a source of temporary respite from the chaotic emotional intrusions of post-traumatic stress disorder (PTSD), an opportunity to enjoy positive social interactions with like-minded veterans and to rekindle facets of embodied physicality and physical challenge that were previously integral to their military careers. While veterans reported emotional 'dips' and empty feelings between surf sessions, these were alleviated to some extent by engaging in walks, mindful meditation and other 'health work'. Similarly, evaluating the effects of the 'Wave Project', a six-week surf therapy programme with vulnerable young people in Cornwall, Devine-Wright and Godfrey (2015, 2018) identified consistent and sustained improvements in the physical and mental wellbeing of programme participants. These are attributed to the sensory, social and inclusive qualities of the programme, as well as opportunities to build the skills and confidence required to negotiate the physical risks of being in the ocean in a supported way. Focusing on young people experiencing physical and mental health issues, disability, social deprivation, family breakdown or social isolation, the programme uses specialist equipment where required (e.g. sand buggies, adapted surfboards etc.) and 1:1 tailored volunteer support (overseen by a surf co-ordinator) to facilitate such transformations amongst programme participants. While these types of interventions are promising, with new networks emerging to share learning (such as the International Surf Therapy Organisation, ISTO), the broader readiness of outdoor water-based practitioners to engage in and deliver such 'blue care' interventions at scale remains under-researched.

Efforts to explore the perspectives of these practitioners are particularly timely given recent moves towards the inclusion of diverse nature settings – including so-called 'green' and 'blue' spaces – within social prescription initiatives within and beyond the UK. Social prescribing has been defined as 'a formal means of enabling primary care services to refer patients with social, emotional or practical needs to a range of local non-clinical services and provides a framework for developing alternative responses to meet need' (Brandling and House 2007, 3). Prescriptions may include referral to a formal structured programme of activities or can be less structured, with nearby resources for health and wellbeing signposted. Interest in social prescribing has risen to the extent that a new not-for-profit independent National Academy for Social Prescribing was initiated by the UK Secretary of State for Health and Social Care in 2019, with the aim of developing and enhancing the potential for social prescribing to promote health and wellbeing. This initiative follows guidance on – and commitments to support – social prescribing published by the National Health Service (NHS) England. Such initiatives form part of its Long-Term Plan to move towards Universal Personalised Care (NHS England 2019), which seeks to enhance the control of individual patients in shaping how personal care needs are planned and addressed<sup>1</sup>.

Social prescribing can encompass activities ranging from the arts and education, to recreation and environmental activities. 'Nature' of some kind often features in contemporary social prescriptions (such as community gardens, parks, woodlands and trails), building on a longer-term tradition of therapeutic interventions, such as 'green care', 'horticultural therapy' and 'nature assisted therapy' (Annerstedt and Wahrborg 2011; Thompson and Wilkie 2020). The term, 'green prescription' was first adopted in New Zealand in the late 1990s to describe a series of structured physical activities and nutritional changes encouraged (and monitored, using pedometers and follow-up conversations) by General Practitioners (GPs) for patients with specific non-communicable diseases (NCDs), such as Type 2 diabetes, hypertension and cardiovascular disease (James, Christiana, and Battista 2019; Robinson and Breed 2019). The 'green' facet of these early prescriptions referred to the green pads used to write down the prescription (Jepson, Robertson, and Cameron 2010). While nature was not originally a key component of 'green prescriptions', the term has since been expanded to include a range of 'purposeful' nature-based activities and activity programmes designed to

promote and/or restore health and wellbeing amongst patients with specific mental and/or physical health conditions (Kondo et al. 2020).

While there is growing clinical and public health interest in green prescribing, particularly for patients seen regularly for psychosocial conditions (Thomson et al. 2020), health professionals have also expressed concerns. These are linked to resourcing (for example, when patients are not financially able to participate in or sustain the prescription, or when programme funding for the activities is ad hoc and short term) (James, Christiana, and Battista 2019), and issues pertaining to quality assurance, liability, and health and safety (Jepson, Robertson, and Cameron 2010). The latter are particularly pertinent in relation to what we refer to here as ‘blue prescribing’ (Maund et al. 2019); a means of social prescribing based in outdoor water-based settings, including programmes involving kayaking, canoeing, sailing, stand up paddle boarding, surfing, wild swimming and coastering. Most contemporary green prescription schemes (and associated quality assurance guidance, for example see: NHS England and NHS Improvement 2020; Lister 2019) focus on relatively low-risk activities, such as community gardening, food growing, conservation or horticultural therapy projects, and care farms (Bragg and Leck 2017). Yet, blue care activities that might be included within an expansion to blue prescribing can involve negotiating rapid tidal changes and dangerous river or ocean currents, and therefore require high levels of aquatic awareness and water confidence – amongst instructors, volunteers and activity participants alike. As noted above, evidence from the Wave Project (Devine-Wright and Godfrey 2015, 2018) and other smaller-scale blue care interventions (Britton et al. 2020) suggest significant benefits to wellbeing in building the skills to negotiate such risks. However, there is little research to date concerning the capacity or readiness of outdoor water-based practitioners to create the ‘enabling encounters’ required to bring about such benefits through blue prescribing activity programmes. By enabling encounters, we refer to the dynamic relational configurations of social, affective and material resources that co-constitute opportunities for health and wellbeing to emerge in and with place, in contrast to entanglements that undermine or erode such opportunities (Duff 2011; Gorman 2019).

In this paper, therefore, we share the findings of an initial exploratory, qualitative study designed to highlight and address this important oversight by examining the perspectives of outdoor water-based practitioners concerning opportunities to engage in such blue prescription pathways, and the likely challenges of doing so. We present novel insights into the core skillsets and resources required by such practitioners to manage social and environmental risks amongst participants of these activities, to create inclusive, enabling place encounters that support participant health and wellbeing. In examining these priorities, this paper contributes to wider efforts to support evidence-based decision-making around blue care interventions (Britton et al. 2020). It foregrounds the importance of tailoring and adapting such interventions to varied local contexts, participating groups and communities in order to promote mutualistic relationships of care (DeVerteuil, Power, and Trudeau 2020) between activity participants, blue space activity providers, health and social care providers.

## Methodology

The qualitative, interpretive study informing this paper was underpinned by three research questions (RQs): 1) How are outdoor water-based activity programmes currently designed and structured to support the needs and priorities of participants? 2) How, if at all, are opportunities to promote health and wellbeing deliberately incorporated within these activity programmes? 3) How do outdoor water-based activity practitioners feel about the growing interest in ‘blue’ prescriptions and their capacity to deliver such targeted programmes of activity? In this paper, we focus primarily on the findings identified in relation to the third RQ as a particularly understudied topic, with important implications for the design, development and long-term sustainability of blue prescription pathways.

A qualitative approach was used to address these questions, focusing on the experiences of outdoor water-based practitioners based primarily in the south west of England. Qualitative methods

were appropriate for this study since they are exploratory, person-centred and open to new information (Johnson and Rowlands 2012). As a peninsula, the south west of England is a well-placed case study (Yin 2009) for this work, with the longest coastline of all English regions and many highly skilled water sports and outdoor adventure providers, operating across commercial, voluntary and community spheres.

A purposive sample was recruited to capture diverse, 'information-rich' views (Flyvbjerg 2006; Patton 1990) amongst eight practitioners. Practitioners were recruited from both organisations that were, and were not, already providing structured activities with a remit to promote health and wellbeing, to capture a range of perceptions and integrate insights from people with and without existing training in – and experience of the intricacies – of supporting blue care. For this study, practitioners included anyone who identified as a provider, project co-ordinator, trainer or instructor of outdoor water-based activities, with efforts made to include practitioners with varying types and years of experience in their roles. Practitioner experience ranged from volunteering to lead or coach community swimming or surf life-saving groups, to coordinating formal therapeutic surfing interventions, or working as qualified instructors and instructor trainers. Levels of experience in their current roles ranged from three to approximately 35 years, with most describing pathways that started with participating in such activities for leisure purposes (often from childhood) through to volunteering in existing programmes and eventually deciding to secure the necessary qualifications for their current roles (e.g. in surf life-saving, life guarding, swim coaching, and various forms of instructor and trainer qualifications). Seven practitioners were recruited from the south west of England and one from Ireland (see Table 1). The Irish participant was recruited on the basis of their involvement with a south west-based research project, and their role working at the interface of blue space research and practice. Participants were invited to take part in the project via email, initially contacting organisations that the research team had worked and/or volunteered with in the past, before snowballing to identify further participants from across the sector. Ethical approval for the study was secured through the University of Exeter Medical School Research Ethics Committee (approval code: 19/07/218).

One telephone and seven face-to-face semi-structured interviews (Sparkes and Smith 2014), lasting from 39 to 73 minutes, were conducted with the recruited practitioners from October to December 2019. An interview guide was developed including a series of open questions and probes around the following topics: (a) practitioner perceptions regarding the health and wellbeing impacts of outdoor water-based activities for their clients and activity programme participants; (b) strategies used by practitioners to support participant health and wellbeing and manage environmental and social risks in different water-based settings; (c) practitioner perspectives concerning the opportunities and potential barriers to engaging with blue prescribing programmes; and (d) any prior experience in liaising with health, social care or educational organisations in linking participants to their activity programmes. These topics were included alongside

**Table 1.** Practitioner sample.

Practitioner	Gender	Location of activities	Activities run	Funded to deliver specific health/wellbeing programmes
P1	Female	SW only	Kayaking, coasteering, stand up paddle boarding	No
P2	Male	Nationwide	Sea swimming, board paddling, ocean ski	No
P3	Female	SW only	Sea swimming	No
P4	Male	SW and N	Lifeguard courses, stand up paddle boarding, surfing	No
P5	Female	Ireland/ Nationwide	Surfing	Yes
P6	Male	SW only	Sea swimming	No
P7	Male	SW only	Kayaking	No
P8	Female	Nationwide	Surfing	Yes

active listening to follow other relevant lines of discussion initiated by each practitioner in the context of their interview.

Each interview was audio-recorded, transcribed and anonymised. The analysis started with a period of data immersion, familiarising ourselves with the data through listening to, annotating, reading and re-reading each transcript, noting down initial impressions of manifest and latent meanings. The eight transcripts were subject to an iterative process of reflexive thematic analysis (Braun and Clarke 2019), working together to question and query the assumptions we were making while coding and interpreting the data. This process was facilitated by our contrasting subjectivities; as a lifeguard and surf lifeguard trainer assessor, the lead author is acutely aware of the risks involved in such outdoor blue space activities, but also skilled in negotiating them. The co-author, meanwhile, has limited water confidence and largely prefers to be near water than within it. Although we adopted an inductive analytical approach to generate codes, the research questions were used to guide the initial stages of data immersion and analysis, and efforts were made to move back and forth iteratively between the data and the literature in order to examine the different facets of participants' stories in relation to existing research on 'blue care', water-based leisure, blue space, health, wellbeing and social prescribing.

To enhance the trustworthiness of the study, a field diary was kept by the lead author for purposes of reflexivity, sincerity and transparency, taking time to reflect on the perspectives, experiences and ideological dispositions brought to the study. This process was particularly important within the interactional context of each interview (taking care to clarify meanings rather than assume a shared understanding of phenomena discussed by participants) and in the iterative analytical work conducted with each transcript (Tracy 2010). Working with the co-author as a critical friend (colleagues/peers who 'broaden the scope of perception', Norris 1997) throughout the analysis facilitated this process, co-analysing transcripts and discussing codes and domain summaries generated, as well as co-developing thematic interpretations.

A particularly pertinent theme developed during the analysis concerned the intricacies involved in developing a 'blue care skillset', including the unique competences of the practitioners interviewed (in terms of managing environmental risks across the different aquatic environments and ambient conditions they worked in but also in tailoring activities to the needs and circumstances of different activity participants), and the perceived skillsets required amongst health and social care practitioners to link people to appropriate blue care activities and providers. For the types of active blue care activities discussed by our practitioners (surfing, canoeing, kayaking, sea swimming, coastering, etc.), developing such expertise took time and care, with key implications for the resourcing, skills training and quality assurance pathways of future blue prescription programmes in this field. At the same time, concerns were raised around the risks of over-medicalising such activities at the expense of recognising more playful, pleasure-oriented motivations for taking part. As a particularly understudied area of work, we focus on these dimensions in this paper.

### **'Edgework' and enabling blue care**

In the broader literature around blue space and health, Foley and Kistemann (2015, 4) describe the idea of a 'feel-for-water', advocating for the capacity of such settings to 'embrace bodies of difference in ways that are gently enabling'. Through our practitioner interviews, it was clear that particular competencies were required to navigate and enable such opportunities in the context of 'riskier' blue care activities involving surfing, kayaking, coastering and so forth. Practitioners, particularly those with more experience working with individuals and groups with specific social and embodied physical priorities (P1, P5, P8), hinted at a 'blue care skillset' as integral to the delivery of 'safe' (physically, socially and emotionally) blue prescriptions. This skillset includes a finely tuned set of embodied knowledges required both for care-full risk management in such unpredictable aquatic settings, and in tailoring activities to individual needs, experience levels and broader social dynamics in group settings.



Practitioners discussed a range of strategies used to enrol the water in cultivating care (Buser et al. 2020) whilst managing environmental risk, to best support participant health and wellbeing within their programme, for example in terms of equipment used, instructor training and qualifications, and the tailoring of activities to weather, seasons and social dynamics.

*P5: It was really important to create a safe space and a space that's enabling, and recognising that the sea and the beach and coasts can be spaces of overwhelm-, of risk, of fear ... so it's how do you turn that into a transformative experience?*

Practitioner narratives of risk management reflect their role in creating opportunities for 'edgework' (Lyng 2008), with programme participants mastering fear and asserting new aquatic identities through identifying and negotiating incremental, manageable levels (or 'edges') of environmental risk in the context of carefully supported 'blue' encounters (Thompson and Wilkie 2020). In this way, potentially risky blue environments can be transformed into more enabling blue care encounters.

*P8: I think because it's a challenging environment, that's also important. Like, the fact that the waves are always different. There's a certain level of having to overcome ... in a way there are far easier ways to get immersed in the water probably, less resource dependant and maybe even less scary. But I actually think an element of that, you know the fear, the risk, the challenge of the waves, seems to be important for that sense of will to accomplish and learn something new and build confidence.*

Practitioners emphasised the importance of using different aquatic environments and ambient conditions to bring water awareness into the body (Britton and Foley 2020), building water confidence amongst their activity participants gradually, and always ensuring that the choice to tackle more challenging situations rests with the participating individual. Understanding and being responsive to individual needs, knowing when to support them to negotiate risk or otherwise, and ensuring all activity participants are informed of the potential risks in each session, were emphasised as essential when managing environmental risks in such water-based activities:

*P8: The most important thing is telling them you don't have to do this ... so giving a bit of control back into the hands of the young person ... letting them know when they come to the beach, it's your session, and it's up to you ... you don't have to surf ... That control then you can see them be like, 'I can do this', and you split it down into bite-size chunks ... putting control back into their hands is massive ... and then for kids who really struggle with change, expectations, coming to one session and it being perfect little 'rippley' waves where they feel like, 'ah this is fun', and then they come to the next session and it's massive onshore and it's cold, messy horribleness.*

The importance of participant control here speaks to the broader ideological shift in the UK context to more personalised forms of health and social care (NHS England 2019). Indeed, Husk et al. (2020) emphasise the importance of matching social prescription referrals to diverse patient priorities and expectations. Our study demonstrates the need to attend to these variations, not just when initially referring someone to an activity programme but also whilst participating in the programme itself. The value of bringing specific material, social and temporal resources into the blue care experience was particularly emphasised by practitioners that were involved in supporting disabled individuals and groups to build water confidence. They explained a focus on lower risk activities initially (e.g. paddling, splashing, swimming and canoeing or kayaking), often supported by specific equipment (double canoes, beach wheelchairs, etc.), running shorter sessions (e.g. 30–45 minutes rather than the three-hour commercial group sessions), incorporating a more gradual process of building water confidence and familiarity in a series of sessions over time, with altered instructor ratios (1:1 for groups with disabled participants and carers rather than the 1:8 ratios used in their commercial activities), with careful consideration given to instructor-participant pairings. For example:

*P1: With people who are autistic, you really need to know what their particular likes and dislikes are, and it's amazing how much we adapt the session ... We had one young man who came for three weeks, and after 10 or 15 minutes would get very agitated. And it turns out, he didn't like women, so my brother came along ... By week three, this young man had got into a wetsuit, he'd gone near and touched a kayak, but he'd not been on it. So my brother sat on the shore, on the kayak with all of his kit on and the young man sat in front of him in between his legs – and that was*

*brilliant. And then my brother said we'll float, and they were floating, and then they were kayaking ... and then his mum stood there and said he doesn't like women and he really likes men ... So that was a particular thing with this person.*

Practitioners with less experience of working with such participants were acutely aware of the limits to their own 'edges' in terms of their skillsets. They recognised the need for further training should their remit expand from running voluntary community swim groups, or commercial activities linked to tourism and leisure, to being responsible for creating health-enabling encounters for people with more specific embodied health and social needs.

*P3: You are taking on things that are slightly risky so be aware of your own limitations at the same time. If you're taking people miles out to sea, you want to know that you can get them back in ... it's actually made me read up more about the tides ... and obviously you have to factor injury in - I'm not trained and it's something I do really worry about.*

*P7: The difficulty I see is that water-based activity providers are almost exclusively geared to the tourism/visitor market and we have no experience in targeting or catering for the health and wellbeing sector.*

*P2: I think we're all vaguely aware of the benefits of what we do but I think if we were going to offer it as something formalised, then those people that wanted to get involved might need some training. Because I think what we do is all very lovely but it's all done by feel if you like, and I don't know of anyone who has particular training or even experience in the right way to offer a service to get a positive result for someone, it's all sort of intuitive.*

Practitioners therefore recognised that the modification of environmental dynamics to manage risk and maximise opportunities for participant wellbeing was dependent on the 'experience of the guide and their knowledge of what they're doing' (P1). This knowledge was not just about being able to negotiate risks personally, but in managing risk with and for activity participants from all backgrounds, and boosting participant confidence with 'non-judgemental concern, compassion, personal attention and advice' (Husk et al. 2020, 317). Practitioners described efforts to tailor activities across socially diverse groups, including people with varied levels of confidence and expertise, but also social dynamics that may undermine opportunities to ensure a supportive environment for the activities. Reflecting recommendations by Maund et al. (2019), P2 discussed efforts to attend to these varied levels of confidence through careful participant groupings, while P1 explained how she sought to reconfigure social status *within* groups:

*P2: As we saw last week, the group was so big and the conditions were such that some people who were inexperienced weren't going to have a great session, so splitting the group into two; of the people that were more capable and then less capable was really successful. So again, everyone comes away smiling because they've had the session that was right for them.*

*P1: If I have a group of school children, there will always be one who's the outsider in that group ... so I manipulate the group so that kid is the first, generally, to do the most exciting thing with encouragement ... I always like doing that because they then end up with a different status.*

In this way, practitioners demonstrated a commitment to both individual and collective wellbeing in each group, choreographing the relations between group participants as well as attending to the activities in hand (Atkinson et al. 2019; Buser et al. 2020). Concerns were, however, expressed about the quality of support received when instructors were less aware of their limits or those of the group, particularly when preoccupied with showcasing their own expertise at the expense of attending to and instilling confidence in those taking part:

*P4: One of the things I do see at some providers is ... I think especially with younger males ... is that there is a lot of bravado going on. And they are there because they want to be associated with a surfing persona, rather than being there because they want to be in the outdoors and share that experience with people ... I see that they are not doing that job for the right reasons.*

*... recently there's been videos of coastering of a local provider ... with the instructors doing massive jumps and what looks to me quite risky ... I think risk taking is important from a personal perspective, but not necessarily from a provider perspective. Because you're taking risks as a guide, your clients are in an environment where they're probably scared ... and actually, that can often make people feel bad about themselves.*



In addition to these gender and age dynamics, differences in socioeconomic status were identified as a key consideration when managing social relations. This was a concern for P4 who recognised that a group may consist of both ‘wealthy’ individuals and individuals that have ‘been doing their paper round for the last 12 months to save up for this one opportunity’. This practitioner emphasised the importance of reminding instructors that activity participants may come from ‘multiple backgrounds and done different things to be there’. Many practitioners were also acutely aware of the many barriers to accessing such activities, including transport, a lack of outdoor showers or private changing facilities. Activity instructors must have the ability to read and empathise with these barriers and varied routes into the activities to enhance collective wellbeing in future blue prescribing pathways. Practitioners saw potential in such pathways to alleviate inequalities in blue care access, provided they receive adequate and long-term financial support. Many social prescription programmes are funded on a year-by-year basis, with time-limited project funding (Bragg and Leck 2017), often from charitable funders willing to cover start-up and piloting costs but not the longer term running of a therapeutic programme.

*P3: I know of a colleague who ... she is working for a short period for a project funded on social prescribing. She's going into doctors' surgeries and helping people just to achieve maybe one thing but it's like a limited period. What can we do in a year? So actually, it needs to be funding for a reasonable period of time.*

Practitioners touched on the resulting tensions between project delivery, funder reporting requirements and future fundraising imperatives created by short-term funding cycles (Milligan and Conradson 2006). They suggested future blue prescribing pathways would need longer-term secure financial investment, to ensure equitable access across different patient groups but also to finance skills development pathways to build, sustain and retain practitioners with the necessary blue care ‘skillset’, rather than relying solely on informal peer-peer training or trying to secure ad hoc funding to address specific capacity building priorities over time. Two participants (P1, P4), in particular, highlighted the likely challenges of recruiting sufficient numbers of blue care instructors with the awareness and ability to effectively respond to participant needs in future blue prescription initiatives.

*P1: The average instructor is someone who's enjoyed it as a kid, did it into their twenties, realised there's no work in the winter, so they have to go into retail or do a winter season abroad, you get no stability, you have to move around, and you get physically knackered ... So unless someone's at the top of their field, you don't have a 35-40 year old instructor taking out young people and families, and yet they're the ones with enough experience to do all stuff we've been talking about. So, as an industry, it's really sad ... and the consequences of doing something wrong as an instructor are enormous ... We have a great instructor team and they're on average, dare I say it, pretty old ... we have people who've got specialisms in disability ... the team tries to give feedback to each other and we learn stuff ... but also, with the charitable funding, every time we go for something, we try and build in a training component ... so gradually our instructor team are all being trained in various things ... Yet, outdoor sports are probably the most unregulated. Like, anybody could set up and do coasteering and you could do it tomorrow. As long as you were willing to take the risk on insurance, then what stops you?*

Given the concerns of health care professionals about the quality assurance, liability, and health and safety of *green* prescription providers (Jepson, Robertson, and Cameron 2010), the relatively unregulated nature of these outdoor water sports will likely be a cause for concern in future blue prescription pathways. While certain qualifications are needed for insurance purposes, these are often provided by different accreditation bodies, for example the British Canoe Union, the British Mountaineering Council and, more recently, the National Coasteering Charter. Some of the practitioners in our study therefore felt that a more joined-up approach – incorporating additional specialist skills in disability and mental health awareness – would be needed to upskill a sufficient number of accredited blue care providers in different regions, each supported to develop the full set of qualifications required to co-design enabling, inclusive blue prescription programmes in collaboration with health and social care practitioners.

Taken together, these findings suggest that there are individuals within the commercial and the voluntary, community and social enterprise (VCSE) sectors who are capable of creating enabling blue care encounters, running and tailoring different activities to various environmental conditions and

individual and group needs. However, the activities require a range of specialist skills and social sensitivities on the part of the instructors, including an awareness of the ‘edge’ of their own skillsets and the capacity to provide aspects of ‘therapy without the label of therapy’ (P8) to people who might otherwise be excluded from such blue care activities, for example through lack of confidence or prohibitive transport and equipment costs. Learning specialist skills to support blue care programmes takes time and experience, yet a prolonged career as an outdoor water-based activity practitioner can also take its toll on the body. As such, although there are growing blue care initiatives to learn from (Britton et al. 2020), there is much to consider in terms of the support needed for developing sustainable, socially inclusive blue prescription pathways.

## Medicalising blue care

The practitioners in our study were aware that outdoor water-based activities, such as coasteering, wild swimming, surfing, kayaking and paddle boarding, have the potential to support varied aspects of health and wellbeing. These ranged from developing new skills and competences, to building confidence, self-esteem and self-efficacy, and supporting new social relationships within group settings. They also identified plenty of opportunities to pursue blue prescribing further in the south west region and beyond, pointing out, for example, as yet untapped activity settings, including more sheltered inland lakes and quarries for beginners; possible collaboration with the tourism industry, for example linking up with accommodation providers in the ‘shoulder’ seasons to provide more affordable opportunities for people to visit and complete intensive activity programmes; and the presence of a keen volunteer base. However, in addition to the resources required to design, adapt and sustain such programmes from the provider perspective, our study practitioners flagged key skillsets and awareness that would need to be developed by health and social care professionals to ensure patients can be linked to schemes that best meet their health and social priorities and interests.

Reflecting concerns in the literature around the impact of social prescribing on GP workloads, accountability and liability (Bragg and Leck 2017; Kenkre and Howarth 2018), our practitioners foregrounded concerns that GPs may not have the time, willingness or expertise to identify or ‘prescribe’ the most appropriate blue care activity or blue care activity provider for the specific needs of each patient:

*P6: I think GPs are beginning to realise that there are other options. But it's often difficult for them, I think, to know where to send people. And they probably need a bit more education on it.*

*P4: My wife is a GP and she spends a lot of time talking to people about a lot of things ... and if you want to be a doctor, you spend a lot of years studying illnesses, especially as a GP, a wide variety of things and medications and impacts. If you then give them the responsibility of prescribing outdoor education, they're going to have to learn about that as well. Because actually, they're not an expert in that and there is a certain amount of reluctance for doctors to tell people to do something if they don't know about it, because actually there's a litigation issue there. Are they indemnified through the General Medical Council to tell someone 'you need to go and do this', for something they don't necessarily know what it is?*

In the latter quote, P4 highlights potential litigation issues for health care professionals in prescribing activities without appropriate levels of quality assurance. The broader social prescription literature highlights the crucial role of the link worker (or ‘navigator’) in matching patients to the appropriate service (Pescheny, Randhawa, and Pappas 2018; South et al. 2008) and using locally agreed quality assurance processes to make agreements with providers and community groups (NHS England and NHS Improvement 2020). While link workers may be stationed within GP clinics to facilitate new referrals, there has been little discussion or activity conducted to date to develop pathways for ensuring link workers have the skills and tools required to make such assessments in the specific context of blue care. As noted by P8, referrals may come from schools and local councils in addition

to GP surgeries, and it also remains unclear how the link workers will be included in these wider referral pathways.

Practitioners in our study also expressed concerns that an increase in referrals to existing providers will overburden the small-scale commercial and/or community-based, voluntary organisations in a position to run such programmes (Langford, Baeck, and Hampson 2013). This issue was already apparent amongst existing surf therapy practitioners, currently oversubscribed and forced to operate on a seasonal basis due to water temperature and ambient conditions:

*P8: We can only run spring to the end of autumn ... And then winter we have a whole six months of the year where we don't run ... that also means that the people that are sat on the waiting list from the referral list, if they get referred in September, then there's another six months at least ... it makes the waiting list so much longer because they've got that whole six-month gap where they don't do anything.*

P8 had therefore been exploring opportunities to use artificial indoor wave pools to extend the season, but this has resource implications in terms of securing funding to cover the higher transport costs to, and use of, these more distant, dispersed facilities.

These findings suggest the need to create new opportunities for blue care practitioners to collaborate with link workers, patient involvement groups, and health and social care practitioners to co-design future blue prescription programmes. Quality assurance and training pathways need to be integrated into this process to foster mutualistic relationships of care (DeVerteuil, Power, and Trudeau 2020) that mitigate programme risks and foster material, social and affective relationships of wellbeing (Duff 2011).

At the same time, practitioners in our study hinted at a deeper issue with such collaborations; that the move towards blue prescribing might 'over-medicalise' activities that many people engage in for more playful, informal reasons.

*P5: You don't want to be in a place where you end up over-medicalising something that should just be innate and all around us, and naturally and freely accessible for all and yet it is really important to create this much needed reconnection, and to value the therapeutic benefits ... My only fear that I would have is that does it then become just another form of consuming nature and commodifying it?*

When describing their approach to health and wellbeing promotion through their activities, many practitioners framed such outcomes as more of a 'by-product' of what they do, rather than the core focus, rarely advertising their activities in terms of health or wellbeing. There are, therefore, perhaps broader conversations to be had about the dangers of over-medicalising these experiences in the context of blue care. Perhaps blue care is better interpreted as what Conradson (2003, 508) describes as an 'ethics of encounter ... a way of being that extends beyond formal or professionalised interaction into domains where humour and play may be as important' (in this case, as important as keeping participants safe, stimulated and supported). These conversations reflect wider critique within the nature-health literature that suggests 'nature' has become an important 'transactional zone' (Brown and Bell 2007). In this work, promoting nature-based physical activity is believed to 'mask the health-related messages being promoted because it is recognised that individuals have other desires and motivations for being in nature' (2007, 1352).

## Concluding reflections

This exploratory, interpretive study has provided novel insights to suggest that, despite promising moves towards expanding blue care through developing health-enabling outdoor water-based activities, the commercial water sports leisure, tourism and VCSE sectors in the UK may not be ready to accommodate growing demands for blue prescriptions, with no clear or sustainable pathway for meeting key funding, training or staffing needs. Financial distress in the VCSE sector, due to long-term governmental austerity in the UK, has created much uncertainty, and further research into effective and sustainable funding models for such blue prescription programmes would be timely (Kenkre and Howarth 2018; Polley et al. 2019). In addition, while the fieldwork for this study was conducted before the global Covid-19 pandemic

impacted on the UK, the livelihoods of outdoor water-based practitioners will likely have been affected by social and political responses to it. In the UK, for example, the Royal National Lifeboat Institution (RNLI) paused lifeguarding services in line with government guidelines not to take part in water-based activities from March to May 2020. Even once the ban was lifted, practitioners will have had to operate in much smaller groups and implement new safety precautions to ensure physical distancing, with logistical and financial implications as well as challenges in meeting subsequent demand for the activities. Future research could usefully examine the longer-term impacts of this period on the sustainability of the sector.

Although based on a small, relatively homogenous sample in the south west of England and Ireland, in sharing these findings, the paper invites critical reflection on the future of blue prescribing and priorities for future research in this area. For example, larger-scale studies with activity provider and health and social care practitioners working in varied regions (within and beyond the UK) would be useful to understand and 'map' the current blue care 'skillscape' (Hunt 2018, 82); the relational configurations that enable the development of skill 'ecologically, through bodily movements alongside environmental interactions'. Such studies could be used to identify key skills training and resource needs across different regions and amongst different types of activity providers and health professionals. As noted by Watson (2019, 961), water has the capacity to enrol 'bodies in new connections, socialities, alliances and politics in unpredictable ways' that will need careful navigation and nurturing before blue prescribing can be scaled up.

The research also invites more critical discussion regarding the resonance, meanings and practices of 'blue care' amongst different individuals and groups within society. Bodies are 'intimate sensors' (Britton and Foley 2020) that tune into and respond to such blue immersions through 'complex processes of socialisation, availability and desire that promote or prevent any activity' (Moles 2020, 4). There remain stark inequalities in who can define, access and engage with blue space in safe, pleasurable and supported ways, particularly across axes of race, ethnicity, disability, gender and class (Hignett et al. 2017; Lobo 2014; Pitt 2018; Watson 2019; Wheaton et al. 2020) and where people's local 'blue' is a polluted, harmful or inaccessible blue (Evers 2019). How can blue prescribing programmes be designed in collaboration with providers and health care practitioners to enable the care-*full* encounters that necessarily unfold differently for different people, across diverse cultures and in varied settings? There is a need to understand how future blue care initiatives can genuinely cater for this diversity of resonances, settings and aquatic literacies rather than exacerbating existing health inequalities.

## Note

1. <https://socialprescribingacademy.org.uk>

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## References

- Annerstedt, M., and P. Wahrborg. 2011. "Nature-assisted Therapy: Systematic Review of Controlled and Observational Studies." *Scandinavian Journal of Public Health* 39 (4): 371–388. doi:10.1177/1403494810396400.
- Atkinson, S., A.-M. Bagnall, R. Corcoran, J. South, and S. Curtis. 2019. "Being Well Together: Individual Subjective and Community Wellbeing." *Journal of Happiness Studies* 21: 1903–1921. doi:10.1007/s10902-019-00146-2.
- Bell, S. L., C. Phoenix, R. Lovell, and B. W. Wheeler. 2015. "Seeking Everyday Wellbeing: The Coast as a Therapeutic Landscape." *Social Science and Medicine* 142: 56–67. doi:10.1016/j.socscimed.2015.08.011.
- Bragg, R., and C. Leck. 2017. *Good practice in social prescribing for mental health: The role of nature-based interventions*. Natural England Commissioned Reports, Number 228. York.
- Brandling, J., and W. House. 2007. *Investigation into the Feasibility of a Social Prescribing Service in Primary Care: A Pilot Project*. Bath: University of Bath and Bath and North East Somerset NHS Primary Care Trust.
- Braun, V., and V. Clarke. 2019. "Reflecting on Reflexive Thematic Analysis." *Qualitative Research in Sport, Exercise and Health* 11 (4): 589–597. doi:10.1080/2159676X.2019.1628806.
- Britton, E., G. Kindermann, C. Domegan, and C. Carlin. 2020. "Blue Care: A Systematic Review of Blue Space Interventions for Health and Wellbeing." *Health Promotion International* 35 (1): 50–69. doi:10.1093/heapro/day103.
- Britton, E., and R. Foley. 2020. "Sensing Water: Uncovering Health and Well-Being in the Sea and Surf." *Journal of Sport and Social Issues*. doi:10.1177/0193723520928597.
- Brown, T., and M. Bell. 2007. "Off the Couch and on the Move: Global Public Health and the Medicalization of Nature." *Social Science and Medicine* 64 (6): 1343–1354. doi:10.1016/j.socscimed.2006.11.020.
- Buser, M., T. Payne, Ö. Edizel, and L. Dudley. 2020. "Blue Space as Caring Space – Water and the Cultivation of Care in Social and Environmental Practice." *Social and Cultural Geography* 21 (8): 1039–1059. doi:10.1080/14649365.2018.1534263.
- Caddick, N., B. Smith, and C. Phoenix. 2015. "The Effects of Surfing and the Natural Environment on the Wellbeing of Combat Veterans." *Qualitative Health Research* 25 (1): 76–86. doi:10.1177/1049732314549477.
- Conradson, D. 2003. "Spaces of Care in the City: The Place of a Community Drop-in Centre." *Social and Cultural Geography* 4: 507–525. doi:10.1080/1464936032000137939.
- Costello, L., M. McDermott, P. Patel, and J. Dare. 2019. "A Lot Better than Medicine": Self-organised Ocean Swimming Groups as Facilitators for Healthy Ageing." *Health and Place* 60: 102212. doi:10.1016/j.healthplace.2019.102212.
- Denton, H., and K. Aranda. 2019. "The Wellbeing Benefits of Sea Swimming: Is It Time to Revisit the Sea Cure?" *Qualitative Research in Sport, Exercise and Health*. doi:10.1080/2159676X.2019.1649714.
- DeVerteuil, G., A. Power, and D. Trudeau. 2020. "The Relational Geographies of the Voluntary Sector: Disentangling the Ballast of Strangers." *Progress in Human Geography* 44 (5): 919–937. doi:10.1177/0309132519869461.
- Devine-Wright, H., and C. Godfrey. 2015. *From Positive Outcomes to Lasting Impact. An Independent Evaluation of the Wave Project's Impact on Vulnerable Young People over 3 Years from 2013-2015*. Exeter: Wave Project.
- Devine-Wright, H., and C. Godfrey. 2018. *Surf Therapy: The Long-term Impact. An Independent Longitudinal Evaluation of the Impact of the Wave Project on Vulnerable Young People 2013-2017*. Exeter: Wave Project.
- Duff, C. 2011. "Networks, Resources and Agencies: On the Character and Production of Enabling Places." *Health and Place* 17: 149–156. doi:10.1016/j.healthplace.2010.09.012.
- Evers, C. 2019. "Polluted Leisure and Blue Spaces: More-Than-Human Concerns in Fukushima." *Journal of Sport and Social Issues*. doi:10.1177/0193723519884854.
- Flyvbjerg, B. 2006. "Five Misunderstandings about Case Study Research." *Qualitative Inquiry* 12: 219–245. doi:10.1177/1077800405284363.
- Foley, R. 2017. "Swimming as an Accretive Practice in Healthy Blue Space." *Emotion, Space and Society* 22: 43–51. doi:10.1016/j.emospa.2016.12.001.
- Foley, R., and T. Kistemann. 2015. "Blue Space Geographies: Enabling Health in Place." *Health and Place* 35: 157–165. doi:10.1016/j.healthplace.2015.07.003.
- Gesler, W. M. 2003. *Healing Places*. Maryland: Rowman and Littlefield Publishers.

- Gorman, R. 2019. "Thinking Critically about Health and Human-animal Relations: Therapeutic Affect within Spaces of Care Farming." *Social Science and Medicine* 231: 6–12. doi:10.1016/j.socscimed.2017.11.047.
- Gould, S., F. McLachlan, and B. McDonald. 2020. "Swimming with the Bicheno "Coffee Club": The Textured World of Wild Swimming." *Journal of Sport and Social Issues*. doi:10.1177/0193723520928594.
- Hignett, A., M. P. White, S. Pahl, R. Jenkin, and M. L. Froy. 2017. "Evaluation of a Surfing Programme Designed to Increase Personal Well-being and Connectedness to the Natural Environment among "At Risk" Young People." *Journal of Adventure Education and Outdoor Learning* 18: 53–69. doi:10.1080/14729679.2017.1326829.
- Hunt, R. 2018. "On Sawing a Loaf: Living Simply and Skilfully in a Hut and Bothy." *Cultural Geographies* 25 (1): 71–89. doi:10.1177/1474474016673066.
- Husk, K., K. Blockley, R. Lovell, A. Bethel, I. Lang, R. Byng, and R. Garside. 2020. "What Approaches to Social Prescribing Work, for Whom, and in What Circumstances? A Realist Review." *Health and Social Care in the Community* 28 (2): 309–324. doi:10.1111/hsc.12839.
- James, J. J., R. W. Christiana, and R. A. Battista. 2019. "A Historical and Critical Analysis of Park Prescriptions." *Journal of Leisure Research* 50 (4): 311–329.
- Jepson, R., R. Robertson, and H. Cameron. 2010. *Green Prescription Schemes: Mapping and Current Practice*. Edinburgh: NHS Health Scotland.
- Johnson, J., and T. Rowlands. 2012. "The Interpersonal Dynamics of In-depth Interviewing." In *The SAGE Handbook of Interview Research: The Complexity of the Craft*, edited by J. F. Gubrium, J. A. Holstein, A. B. Marvasti, and K. D. McKinney, 99–114. Second ed. California: SAGE Publications.
- Kenkre, J., and M. Howarth. 2018. "Guest Editorial: Social Prescribing." *Journal of Research in Nursing* 23 (8): 640–645. doi:10.1177/1744987118816127.
- Kondo, M. C., K. O. Oyekanmi, A. Gibson, E. C. South, J. Bocarro, and J. A. Hipp. 2020. "Nature Prescriptions for Health: A Review of Evidence and Research Opportunities." *International Journal of Environmental Research and Public Health* 17: 4213–4228. doi:10.3390/ijerph17124213.
- Langford, K., P. Baeck, and M. Hampson. 2013. *More than Medicine: New Services for People Powered Health*. London: Nesta.
- Lister, C. 2019. *Quality Assurance for Social Prescribing. A Guide to Support Social Prescribing Programmes in England*. Accessed December 2020. <https://www.socialprescribingnetwork.com/quality-assurance-consultation>
- Lobo, M. 2014. "Affective Energies: Sensory Bodies on the Beach in Darwin, Australia." *Emotion, Space and Society* 12: 101–109. doi:10.1016/j.emospa.2013.12.012.
- Lyng, S. 2008. "Edgework, Risk and Uncertainty." In *Social Theories of Risk and Uncertainty: An Introduction*, edited by J. O. Zinn, 106–137. Oxford: Blackwell.
- Maund, P. R., K. N. Irvine, J. Reeves, E. Strong, R. Cromie, M. Dallimer, and Z. G. Davies. 2019. "Wetlands for Wellbeing: Piloting a Nature-Based Health Intervention for the Management of Anxiety and Depression." *International Journal of Environmental Research and Public Health* 16: 4413–4430. doi:10.3390/ijerph16224413.
- Milligan, C., and D. Conradson. 2006. "Contemporary Landscapes of Welfare: The 'Voluntary Turn'?" In *Landscapes of Voluntarism: New Spaces of Health, Welfare and Governance*, edited by C. Milligan and D. Conradson, 1–14. Bristol: Policy Press.
- Moles, K. 2020. "The Social World of Outdoor Swimming: Cultural Practices, Shared Meanings, and Bodily Encounters." *Journal of Sport and Social Issues*. doi:10.1177/0193723520928598.
- NHS England. 2019. *The NHS Long Term Plan*. Accessed December 2020. <https://www.longtermplan.nhs.uk/>
- NHS England and NHS Improvement. 2020. *Social prescribing link workers: Reference guide for primary care networks – Technical Annex*. Accessed December 2020. <https://www.england.nhs.uk/publication/social-prescribing-link-workers/>
- Norris, N. 1997. "Error, Bias and Validity in Qualitative Research." *Educational Action Research* 5: 172–176. doi:10.1080/09650799700200020.
- Patton, M. 1990. *Qualitative Evaluation and Research Methods*, 169–186. Beverly Hills: Sage Publications.
- Peschery, J., G. Randhawa, and Y. Pappas. 2018. "Patient Uptake and Adherence to Social Prescribing: A Qualitative Study." *BJGP Open*. doi:10.3399/bjgpopen18X101598.
- Pitt, H. 2018. "Muddying the Waters: What Urban Waterways Reveal about Bluespaces and Wellbeing." *Geoforum* 92: 161–170. doi:10.1016/j.geoforum.2018.04.014.
- Polley, M., J. Whitehouse, S. Elnaschie, and A. Fixsen. 2019. *What Does Successful Social Prescribing Look like – Mapping Meaningful Outcomes*. London: University of Westminster.
- Robinson, J. M., and M. F. Breed. 2019. "Green Prescriptions and Their Co-Benefits: Integrative Strategies for Public and Environmental Health." *Challenges* 10: 9–23. doi:10.3390/challe10010009.
- South, J., T. J. Higgins, J. Woodall, and S. M. White. 2008. "Can Social Prescribing Provide the Missing Link?" *Primary Health Care Research and Development* 9: 310–318. doi:10.1017/S146342360800087X.
- Sparkes, A. C., and B. Smith. 2014. *Qualitative Research Methods in Sport, Exercise and Health*. London: Routledge.
- Straughan, E. 2012. "Touched by Water: The Body in Scuba Diving." *Emotion, Space and Society* 5: 19–26. doi:10.1016/j.emospa.2010.10.003.



- Thompson, N., and S. Wilkie. 2020. "‘I’m Just Lost in the World’: The Impact of Blue Exercise on Participant Well-being." *Qualitative Research in Sport, Exercise and Health*. doi:10.1080/2159676X.2020.1761433.
- Thomson, L. J., N. Morse, E. Elsdon, and H. J. Chatterjee. 2020. "Art, Nature and Mental Health: Assessing the Biopsychosocial Effects of a ‘Creative Green Prescription’ Museum Programme Involving Horticulture, Artmaking and Collections." *Perspectives in Public Health* 140 (5): 277–285. doi:10.1177/1757913920910443.
- Throsby, K. 2013. "‘If I Go in like a Cranky Sea Lion, I Come Out like a Smiling Dolphin’: Marathon Swimming and the Unexpected Pleasures of Being a Body in Water." *Feminist Review* 103: 5–22. doi:10.1057/fr.2012.23.
- Tracy, S. 2010. "Qualitative Quality: Eight ‘Big-tent’ Criteria for Excellent Qualitative Research." *Qualitative Inquiry* 16: 837–850. doi:10.1177/1077800410383121.
- Volker, S., and T. Kistemann. 2011. "The Impact of Blue Space on Human Health and Wellbeing – Salutogenic Health Effects of Inland Surface Waters: A Review." *International Journal of Hygiene and Environmental Health* 214: 449–460. doi:10.1016/j.ijheh.2011.05.001.
- Watson, S. 2019. "Liquid Passions: Bodies, Publics and City Waters." *Social & Cultural Geography* 20 (7): 960–980. doi:10.1080/14649365.2017.1404121.
- Wheaton, B., J. Waiti, M. Cosgriff, and L. Burrows. 2020. "Coastal Blue Space and Wellbeing Research: Looking beyond Western Tides." *Leisure Studies* 39: 83–95. doi:10.1080/02614367.2019.1640774.
- White, M. P., S. L. Bell, L. R. Elliott, R. Jenkin, B. Wheeler, and M. H. Depledge. 2016. "The Benefits of Blue Exercise". In *Green Exercise – Linking Nature, Health and Wellbeing*, edited by J. Barton, R. Bragg, C. Wood, and J. N. Pretty, Chapter 7, 69–77. London: Routledge/Taylor & Francis.
- White, M. P., B. W. Wheeler, S. Herbert, I. Alcock, and M. H. Depledge. 2014. "Coastal Proximity and Physical Activity. Is the Coast an Underappreciated Public Health Resource?" *Preventive Medicine* 69: 135–140. doi:10.1016/j.ypmed.2014.09.016.
- White, M. P., L. R. Elliott, M. Gascon, B. Roberts, and L. E. Fleming. 2020. "Blue Space, Health and Wellbeing: A Narrative Overview and Synthesis of Potential Benefits." *Environmental Research* 191: 110169. doi:10.1016/j.envres.2020.110169.
- White, M. P., S. Pahl, K. J. Ashbullby, S. Herbert, and M. H. Depledge. 2013. "Feelings of Restoration from Recent Nature Visits." *Journal of Environmental Psychology* 35: 40–51. doi:10.1016/j.jenvp.2013.04.002.
- Yin, R. 2009. *Case Study Research: Design and Methods*. California: SAGE.