#227 - Developing Scotland's Blue-Green Prescribing Programme: A multi-study implementation research

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Objectives/aims
The increasing prevalence of common mental health conditions and the emerging problem of pharmaceutical pollution are closely interlinked and have human and planetary health consequences. In Scotland, the mental health epidemic is associated with increasing dependence on antidepressants translated to pharmaceutical pollution, negative impacts on aquatic organisms, and contribution to the health service's carbon emissions. As Scotland vies to adopt a Wellbeing Economy, transitioning to a sustainable healthcare system is underpinned in the Scottish Government's Hydro Nation and NHS Scotland's Climate Emergency and Sustainability strategies. Related to this is the implementation of a Blue-Green Prescribing Programme (BGPP) – a sustainable mental healthcare programme aimed at reducing antidepressant pollution by sustainably optimising the health benefits of Scotland's blue spaces through nature-based social prescribing (i.e. blue social prescriptions), and by practicing eco-directed and sustainable pharmaceutical prescribing. Guided by behaviour change framework and an implementation research process, we aim to translate and adapt evidence on blue-green prescribing to develop Scotland's Blue-Green Prescribing Programme contextualised in its health, environmental, and cultural landscapes.

Methods
In this multi-study research project, we integrated knowledge synthesis, policy analysis, and exploratory mixed methods in Graham et al.'s Knowledge-to-Action Framework.

Phase 1: We conducted systematic realist and scoping reviews (n=14,420 records) to investigate the contextual factors and programme theories associated with implementing blue social prescriptions and to explore behaviour change interventions used in eco-directed and sustainable pharmaceutical prescribing, respectively. This was followed by an analysis of the current health and environmental policies to understand the readiness of Scotland's related policy landscape for BGPP implementation.

Phase 2: Evidence from the knowledge syntheses and policy analysis informed the development of an interview guide to understand the views of a multisectoral group of experts and practitioners (n=45) about the barriers and facilitators of implementing blue-green prescribing.

Phase 3: We adapted triangulated results from the knowledge syntheses, policy analysis, and interviews into an online survey to investigate the acceptability of an initial BGPP model amongst primary healthcare providers (n=251) in Scotland.

Main findings

Results from Phase 1 revealed that contextual factors on referral information, equipment, transportation, social support, blue space environment, skills of service providers, communication, collaboration, and financing are associated with programme theories on patient enrolment, engagement, adherence, communication protocols, and long-term programme sustainability that influence the implementation of blue social prescriptions. Six behaviour change interventions on education, environmental restructuring, enablement, training, persuasion, and incentivisation were also used in eco-directed pharmaceutical prescribing programmes. There are also leverage points in the health and environment policy landscape for BGPP implementation, however, this could be impacted by limitations on local evidence; lack of awareness and skills of healthcare providers and patients; and weak coordination between key stakeholders.

Results from Phase 2 suggested that there is increasing awareness on the health benefits of blue spaces and the negative impacts of pharmaceutical on the environment amongst key experts and practitioners from health, environment, and water sectors. However, the implementation of blue-green prescribing should be

supported by building local knowledge and skills about the programme; creating opportunities supporting all involved sectors; and providing motivations to healthcare providers and patients to use and adhere to the programme.

Finally, results from Phase 3 revealed that the initial BGPP model has high acceptability amongst responding primary healthcare providers. 79.7% (n=193 primary healthcare providers) reported that they are likely to prescribe blue space activities and 80.2% (n=121 pharmaceutical prescribers) suggested that they are likely to prescribe environmentally friendly antidepressants to their patients who have common mental health conditions.

If a Blue-Green Prescribing Programme is implemented with fidelity in the Scottish context, this could support Scotland's ambition of having a net zero and sustainable healthcare system.