

4. Innovation in integrating systems models

The Challenge

GroundsWell aims to optimise the health impact of Urban Green and Blue Space (UGBS). However, the communities – indeed the systems – which desire, design, develop, and deliver UGBS are fragmented and siloed. Similarly, research programmes and disciplines lack integration and coherence. The challenge is to augment current systems approaches in public health to address these shortcomings. Our particular innovation is the application and integration of systems methods and approaches incorporating co-production, data sharing and community engagement. We have also applied a systems approach to the development of the consortium, its wider community and the programme of work in order to achieve a shared and common understanding of the aims and desired outcomes of the programme, its completeness and coherence.



GroundsWell Consortium

Underpinning approaches and research-based activities

We have demonstrated our approach in two case studies: 1) using the Connswater Community Greenway (CCG); 2) the GroundsWell consortium governance. Briefly, the underpinning approach was to conduct workshops and use systems tools to develop a shared understanding of the context of the research problem and to develop an agreed purpose for the research. Systems approaches were then explored to develop an understanding of what would be required to achieve the agreed purpose, the dynamics and dependencies between these activities, and the governance and management structures necessary to achieve the outcome. Individual systems approaches exist for each of these needs but have not been integrated previously. We have developed an innovative way of integrating these approaches and have extended this to incorporate other models, including economic models, to inform decision-making.

4. Innovation in integrating systems models

The integration of these approaches provides an overall laminated view of the integrated systems framework. The process involved starting with Soft Systems Modelling, Root Definitions (RDs) were used to identify a statement of purpose. These were validated across the consortium. The RDs were then used to identify a set of relevant and coherent activities in support of the identified purpose. Activities were then expanded out into a Conceptual Model, mapping out the entire system. In parallel, a programme level Causal Loop Diagram (CLD) was created to identify the causal and dynamic interrelationships within the system and its environment. Alongside, a Viable Systems Model (VSM) identified a viable organisational structure, specifying key functions and lines of communication across the project. The Conceptual Model, CLD and VSM was then integrated via a big Activity Comparison table, linking activities, roles, responsibilities and measures of success. From this, a Dependency Model was then developed to identify key dependencies in the activities across the consortium.

We have developed a reference model for the ongoing sustainability and maintenance of the CCG in Belfast, taking the same overall approach. This approach has had the following impacts to date: 1) enabled the CCG team to identify new stakeholders required in the sustainability and maintenance phases; 2) identification of key indicators for the 5 year follow-up evaluation; 3) identify action priorities such as anti-social behaviour, and conflicting use of spaces between user groups which are part of a suite of intervention development projects.

Pathways to Impact

The initial impact has been achieved with the establishment and governance of GroundsWell. It has facilitated us to identify key areas that 'block' the system, areas to accelerate through resource reallocation, and identification of challenges across hubs and WPs. It is anticipated that taking an integrated systems approach to the future structure of the Eastside Partnership and related agencies will ensure the sustainment of the CCG and demonstrate the enhanced effectiveness of UGBS. We are currently developing a toolkit to aid dissemination to other case studies in Liverpool and Edinburgh. The first set of papers describing this are currently being submitted for publication.