

Case study: BehaviAir <https://behaviar.org/>

Title: Starting technical and ending up social – Reflections and learnings from the BehaviAir project.

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Background and project description

BehaviAir (Behaviour and Impacts on Air Quality) was a collaborative project in Cork City, Ireland (2023-2025), funded by Taighde Éireann – Research Ireland under the “Healthy Environment for All” National Challenge Fund. It brought together University College Cork, Cork City Council, Cork Healthy Cities (a WHO-aligned urban health initiative) and other partners to raise awareness of air pollution (AP) issues and solutions, and promoting less polluting behaviours.

Air pollution (AP) is a major global health threat, contributing to cardiovascular and respiratory diseases, lung cancer, and around 8 million premature deaths annually, particularly among vulnerable groups. In Ireland, key drivers include solid fuel use for home heating and heavy reliance on motor vehicles. Despite its impacts, AP remains an invisible and poorly understood issue, limiting awareness of both causes and necessary actions for clean air.

To tackle this challenge, BehaviAir combined innovations in air quality (AQ) monitoring with participatory design thinking to make AQ data more accessible to the public and use it to co-create effective and targeted communication strategies. A key initial focus of the project was the co-design and prototyping of an online platform of forecast AQ alerts combined with health and behavioural messaging targeted towards different stakeholder groups; an approach not currently available the public in Ireland.

Guided by an integrated framework combining behavioural models with science communication frameworks and socio-ecological perspectives on tackling complex issues¹, the project followed a design thinking process to achieve different goals (see Fig.1):

1. Map relevant stakeholders and assess their needs with regards to AQ-related issues, particularly related to communication² (Empathise and Define);
2. Co-develop with different stakeholders a low-fidelity prototype of a forecast AQ platform with behavioural prompts through co-creation workshops (Ideate and prototype, article in press)
3. Test the impact and usability of the prototype (not completed due to end of funding)

¹ Cibin et al. (2025) Promoting air quality-related awareness and behavioural change: A rapid review of communication interventions integrating behavioural, science communication and socio-ecological perspectives <https://doi.org/10.1016/j.envc.2025.101237>

² Cibin et al. (2025) Promoting urban air quality resilience through communication: A stakeholder needs mapping and prioritisation study informed by design thinking <https://doi.org/10.1016/j.cacint.2025.100209>

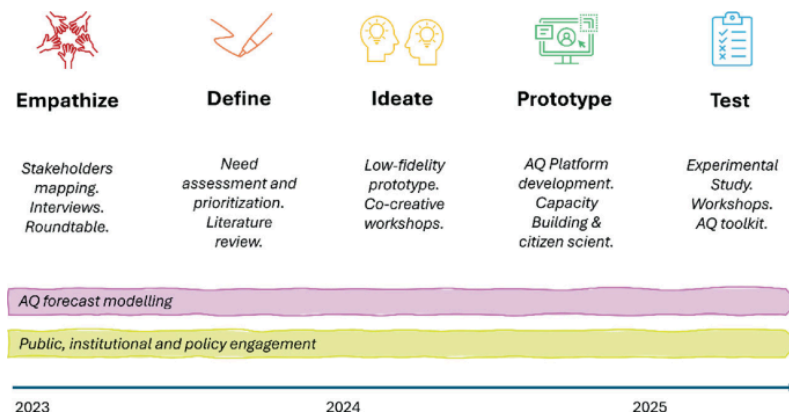


Figure 1. Design Thinking process within BehaviAir. Figure credit: Cassarino et al. (2025). From: Building Resilience and Synergies for Healthy Air Practices Through Community Engaged Research: Learnings from the BEHAV-I-AIR Project in Cork City, Ireland. https://link.springer.com/chapter/10.1007/978-3-031-95020-9_4/figures/1

Adoption and Impact: Expect the unexpected

While BehaviAir’s initial focus was on prototyping and testing a digital solution to tackle a complex and invisible environmental issue, the extended and in-depth engagement with stakeholders across community, healthcare, policy, academia, and business enabled the emergence of diverse and localised needs with regards to AQ communication and action, for which a technological solution was not necessarily the most appropriate or desired.

During our co-creation workshops and across our engagement activities, participants emphasised the need for diverse communication messages and channels, including both digital tools (e.g., forecast platform for vulnerable individuals who may need timely information to avoid exposure to peaks of AP) and analogic solutions, such as, for example, AQ monitoring stations in the community, educational resources for schools (e.g., see an [ezine](#) developed with the Health Service Executive School health promotion team on idling), outreach and media activities to educate the public, and, importantly, mobilisation and policy-facing activities to support civic and institutional engagement with this issue and promote system-level changes.

Thus, “adoption” in BehaviAir emerged in the form of different stakeholders engaging with AP as an environmental and health issue, making sense of it, and identifying solutions and actions that work for their communities and local realities. These forms of *infrastructuring*³ have continued to surface well beyond the end of the funding for the project (March 2025), suggesting and revealing multiple and subtle forms of “impact” that the project has had among those who took part. In doing so, BehaviAir supported the creation and strengthening of a network of relationships and collaborations that have continued to this day and have shaped a collaborative eco-system (see this chapter⁴ for a discussion on this) where actions and initiatives emerge organically, in line with the notion of Participatory Design as a non-linear model that enables possibilities of *design-after-design*⁵

For instance, in 2024 members of the BehaviAir team became part of a working group within the Irish Climate and Health Alliance which developed the position paper “Clean Air, Healthier Ireland”⁶, aimed at advocating for effective AQ-related policies. This paper was launched in the Oireachtas (i.e., national parliament of Ireland) in February 2026 and has stimulated further engagement with policymakers and institutions at the national and local level.

³ Karasti H. (2014) Infrastructuring in participatory design. <https://doi.org/10.1145/2661435.2661450>

⁴ https://link.springer.com/chapter/10.1007/978-3-031-95020-9_4

⁵ Fry T. (2017). Design after design. <https://doi.org/10.1080/14487136.2017.1392093>

⁶ <https://climateandhealthalliance.wordpress.com/resources/>

Sustainability:

Sustaining these diverse forms of adoption and impacts comes with many challenges; first and foremost, the absence of funding to support and resources activities, and to formally recognise the work in academic spheres. We also acknowledge the need for us as researchers to negotiate ongoing tensions between academic and advocacy roles, which, in scenarios like the one nurtured by BehaviAir, can become blurred and lead to burnout and unrealistic expectations. Thus, setting shared values and goals, and agreeing on time and resource constraints has become particularly important in sustaining this work. This work also requires a mindset open to embracing new possibilities and challenges.

BehaviAir has also stimulated reflections on key challenges related to working with different stakeholders to tackle complex issues such as environmental or climate threats, including difficulties in ensuring meaningful participation particularly from the most vulnerable groups, and challenges linked to digital and environmental literacy, which need appropriate considerations to develop truly inclusive solutions. We discuss this in depth in our book chapter⁷.

⁷ https://link.springer.com/chapter/10.1007/978-3-031-95020-9_4