

Co-Creation in Public Health Research: An Introduction to Basic Principles

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Cédric NH Middel^{1,2,*}, Miranda R Blake³, Tara Boelsen-Robinson³, Joreintje D Mackenbach^{1,2}, Josine M Stuber^{1,2}, Carmen Vargas³, Tari Forrester-Bowling³

Affiliations:

1. Amsterdam UMC location Vrije Universiteit, Amsterdam, Epidemiology and Data Science, De Boelelaan 1117, Amsterdam, Netherlands
2. Amsterdam Public Health, Amsterdam, the Netherlands
3. Deakin University, Geelong, Australia, Global Centre for Preventive Health and Nutrition (GLOBE), School of Health and Social Development, Institute for Health Transformation, Faculty of Health

* Corresponding author: c.n.h.middel@amsterdamumc.nl

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Key points

This article discusses:

- What co-creation is and how it can be of value in public health research, by enhancing the relevance and impact of health interventions.
- How to select collaborators and manage their interests and power dynamics.
- Frameworks and guidelines to streamline the co-creation process.
- Skills and team roles to enable effective co-creation processes, and recommendations on how to cultivate these.
- Practical challenges including time, funding, and expertise requirements, and ethics approval.

Abstract

Co-creation is a participatory design approach, which leverages the experiential knowledge of non-academic actors. It is increasingly adopted in public health research, to enhance the relevance, acceptability, and impact of interventions. This perspective article provides a practical introduction for public health researchers into co-creation, its application, and benefits and considerations. Based on the authors' experiences with co-creation in public health, four key considerations for co-creation are outlined: 1) the selection of collaborators (those participating in the co-creation process) and their power dynamics and interests, 2) frameworks and guidelines for the co-creation process. 3) capacities needed to successfully apply a co-creation approach such as emotional intelligence, and adaptability, and 4) practical matters such as resources and ethics approval. These insights serve as a practical introduction for public health researchers considering the application of co-

creation in their projects, with the aim to facilitate more effective and impactful, user-centered designs and interventions.

Introduction

Co-creation has been increasingly recognized within public health as a collaborative design approach. It has been particularly useful in addressing complex issues that require a comprehensive understanding, such as unhealthy food environments.(1) Co-creation has been noted to enhance the relevance, acceptability, and impact of research, for example by improving the specificity and impact of health interventions, as well as increasing support from stakeholders.(1, 2) Despite these promises, co-creation has seen only limited uptake in the public health field.(2) In this perspectives paper we provide an introduction to public health researchers on what co-creation is, what its benefits can be, in which situations it can be useful, and the basics on how to apply it, based on the authors' experiences with co-creation in public health research. These experiences will be presented through two case examples: The SUPREME NUDGE (SN) project (3) and the Change to Improve Mental Health (CHIME) translational research program.(4)

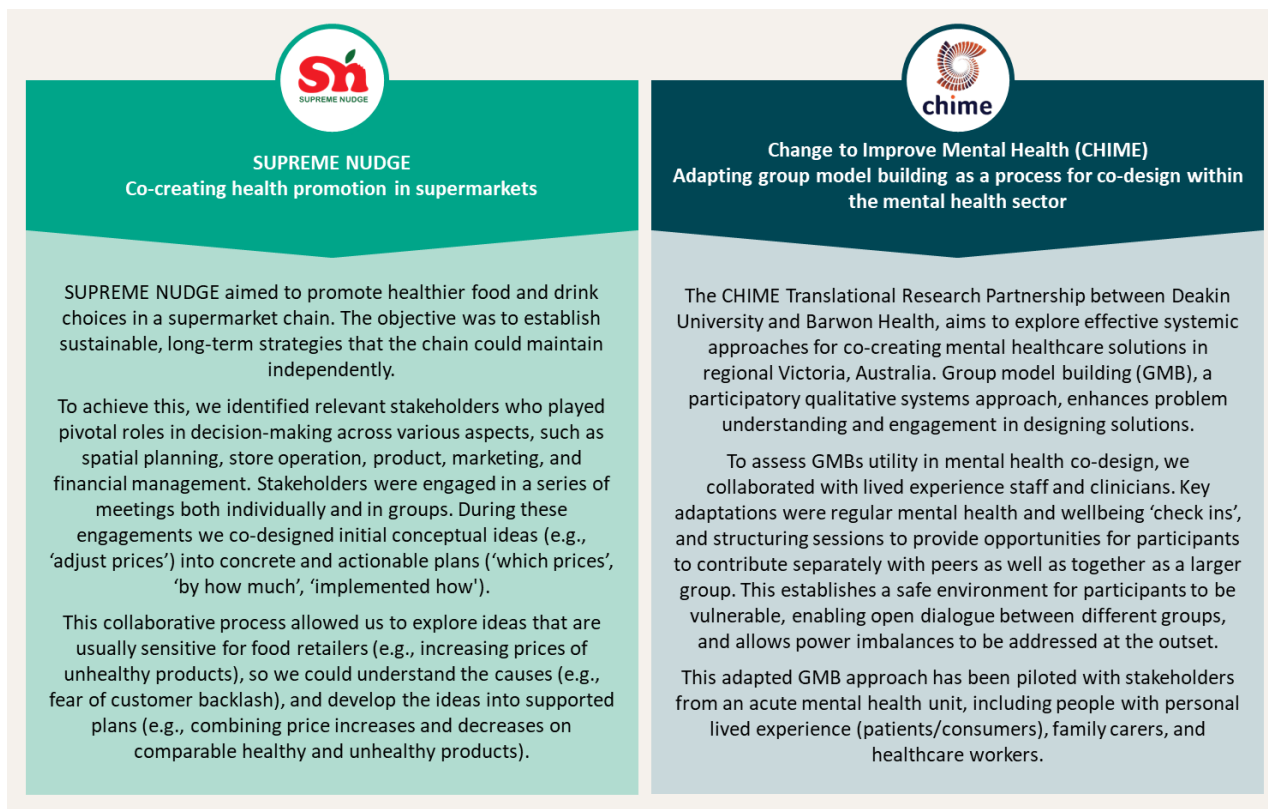


Figure 1. Illustrated are two case examples for the application of co-creation in public health research: the SUPREME NUDGE project,(3) and the Change to Improve Mental Health translational research program.(4)

What is co-creation

Co-creation is the process of collaboration between people (collaborators), to develop understanding of a problem, and the tools, products, or ideas to resolve it.(5) Collaborators are usually actors with an interest in the problem or its resolution. This collaboration encompasses all stages of a research process, from defining and analyzing problems to designing and implementing initiatives to evaluating and re-designing.(6) The depth of collaborator involvement can vary, ranging from non-participation to collaborator control of research.(7) A distinction can be made between co-creation (collaboratively defining and solving a problem), co-design (collaboratively designing solutions to a predefined problem) and co-production

(collaboratively implementing a predefined solution).(6) The SN case is an example of co-design, as the problem, supermarkets being unhealthy environments, was predefined.(3) As co-design and production can be part of an overarching co-creation approach, and the principles discussed below apply to all three, we henceforward use 'co-creation' as an umbrella term.

Theoretical Perspectives on Co-creation

Co-creation has evolved from systems science and democratic practice theory over more than five decades.(8) Open innovation and participatory design principles have popularised co-creation as a reference to participation.(8) Conceptually, co-creation developed independently across several disciplines; resulting in a range of theoretical perspectives and practical adoptions,(8) including 'value co-creation', in management literature,(9) or 'knowledge co-creation' in transdisciplinary literature.(10) In public health, co-creation is often linked with systems thinking, as a means to unravel the complexities of a problem, through the experiential knowledge of stakeholders.(1)

In essence, co-creation enables stakeholders to interact and find shared values to create change.(8, 11) For example in food retail,(3) co-creation allows for the systematic organisation of collaboration between diverse stakeholders, to improve the healthiness of food retail environments. Because of the diverse array of business models in food retail, co-creation is important to help public health research shift to a more collaborative approach, wherein public health interventions can benefit the business, consumers and planet.(11) This requires a focus on providing relevant propositions for all stakeholders and promptly and efficiently implementing actions, for which stakeholders' collaboration and interactions are essential.(11)

The benefits of co-creation for public health research

The collaborative nature of co-creation can be beneficial in various ways, such as enriched understanding of complex issues, greater relevance and applicability of research to actors' needs, improved trust and engagement among actors, fostering long-term relationships with actors, and increased uptake and implementation of research findings.(1, 2) Evidence from healthcare research illustrates that the co-creation of research can improve immediate health-related outcomes at both an individual and systems level.(12) Co-creation can also be a means of facilitating social learning between actors,(13), and development of shared knowledge. An example of this in SN was that as a result of the co-creation of health promotion strategies, certain supermarket professionals had become more aware of which products were healthy, enabling them to independently promote health in the future.(3)

As such, co-creation is likely to be useful for researchers working on complex health issues (often in non-health context, e.g., the supermarkets in SN), where specific actors play key roles (e.g., target group or end-user). In SN, collaborating with supermarket professionals helped develop health-promotion strategies which were more likely to function in a supermarket environment, and through their involvement developed ownership over the strategies, which translated into implementation support.(3)

When (not to) co-create

Despite the potential benefits, co-creation is not always feasible, and when applied in the wrong situations can potentially damage collaborator relationships and waste resources.(14) To guide researchers in their decision on whether to apply co-creation, we offer a framework, based on our own experiences (Figure 2).

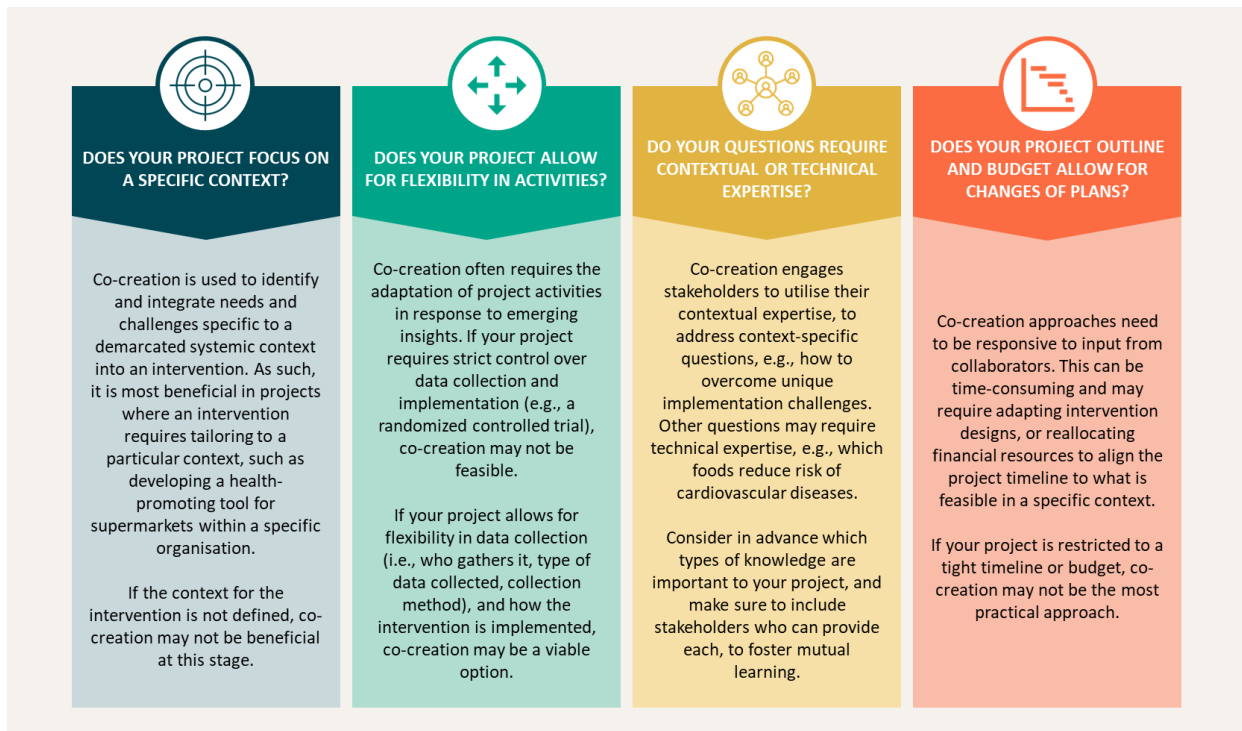


Figure 2 Outlined are four considerations regarding the nature of your project, which provide guidance on the feasibility and usefulness of co-creation in specific contexts and for defined objectives. These considerations are based on the authors' personal experiences in co-creation projects.

Considerations for co-creation

Based on the authors personal experiences with co-creation, researchers who wish to apply co-creation should consider: (i) collaborator selection and dynamics, (ii) frameworks and guidelines for co-creation, (iii) capacity building, and (iv) practical matters.

(i) Collaborator selection and dynamics

Co-creation hinges on combining perspectives and knowledge of a context and problem. Therefore, engaging the appropriate (academic and non-academic) collaborators who can provide relevant and useful viewpoints and knowledge is

crucial. These collaborators should be representatives of the (most relevant) actor with an interest in the problem or the co-created solution. Methods such as actor mapping can help identify key collaborators for specific contexts and projects.(15) As a starting point, consider the following questions for your research project:

- Who will be **impacted** by the outcomes?
- Who will be **using** the outcomes?

Collaborators do not need to be involved simultaneously, and their relevance and level of engagement may vary throughout the process.(7) Consider at each stage which collaborators possess relevant knowledge. For example, in SN, supermarket managers were only involved in the development of strategies which would be implemented by themselves or their staff (e.g., shelf labels), and not those implemented through centralized systems (e.g., automated price-adjustments).(3)

Building and maintaining relationships with and between collaborators is a cornerstone of co-creation.(1) It's important to foster an evolution of these relationships from transactional collaboration to transformative partnerships that yield better outcomes.(16) Firstly, it is essential to develop mutual understanding and manage expectations. Researchers and collaborators should engage in discussions to align goals, terminologies, and expectations. In SN, we found that supermarket professionals were hesitant to implement price increases, which the researchers considered a high-impact strategy. Through open discussions, a compromise was found, where price increases would not explicitly be communicated to consumers, and they were combined with price decreases on comparable healthy alternatives (e.g., low and high fiber bread).(3)

Secondly, defining roles within the collaboration is important as different collaborators bring unique expertise to different parts of the process. A ‘kick-off’ session before the project commences can be a useful forum for such discussions, in which collaborators introduce themselves, discuss their motivations for and expectations of the collaboration, and divide roles, if necessary. Thirdly, building trust involves actively checking in with collaborators, listening to and addressing their concerns, and transparency throughout the process. Regular (preferably face-to-face) interactions are recommended to keep collaborators engaged.(1) A designated ‘relationship manager’ can be beneficial in managing these aspects (see (iii) Capacity building)). In SN, this was done by several researchers simultaneously, which occasionally made communication chaotic.(3)

Unequal power dynamics, or feelings of (un)safety among collaborators (and researchers) can negatively affect co-creation and should be anticipated and addressed.(17) Consider in advance what these may be in your context, paying special attention to vulnerable groups (e.g., patients, children) who often hold little power due to their dependency on their care-takers. Try to prevent unbalanced dynamics where one group may view another as an authority (e.g., patients and practitioners), or feel unsafe to participate or speak out earnestly in the presence of another group. For example, involve representatives from each group who are not directly involved with each other or engage certain collaborators separately (or anonymously) to avoid disruptive power dynamics and avoid a collaborator feeling unsafe. The objective is to foster an inclusive environment where everyone feels comfortable and safe contributing. In CHIME, the initial group model building workshop was separated into peer groups (consumers, carers, and healthcare workers) to help address potential power imbalances and enable individuals to share

their unique experiences in a space where they felt safe and free to speak candidly and contribute without the influence of perceived authority.(4)

Conflicting interests among collaborators can hinder the innovativeness or legitimacy of co-created solutions. Where collaboration is still advised, employing tools such as a power-interest matrix can help identify such conflicts early.(18) Mediation can help achieve a mutually acceptable resolution. In a worst-case scenario, explore ways to engage both parties separately. In SN, one of the main conflicts we encountered was that some strategies were regarded as a commercial risk for the supermarket chain. Therefore, we had to abandon some (potentially high-impact) ideas, whereas for others, acceptable compromises could be found.(3)

(ii) Frameworks and guidelines for co-creation

Co-creation is an iterative process that can be organized and conducted in various ways. If you are new to co-creation, it is advisable to adopt pre-existing frameworks such as the COACCH best-practice guidelines,(19) COACH framework(20) in food retail, or the PRODUCES framework,(21) rather than developing your own. Other resources such as the Co-creation Impact Compass(22) offer detailed strategies on engagement design. Participatory systems thinking methods, such as group model building,(23), which was used in CHIME(4) can also enhance co-creation by fostering collective understanding of a problem and identification of potential leverage points for intervention. While these frameworks offer guidance and can be tailored to fit your study, some projects may not be suited for their use. For example, we advise caution when: 1) your project is highly innovative project, as strict adherence to a framework may inhibit out-of-the-box thinking, 2) you are working in a (cultural, organizational, community) setting where a formal framework may be seen

as too structured or bureaucratic, 3) there are tight deadlines which prevent the use of frameworks with elaborate engagement processes 4) in the context of small projects with a limited budget.

Effective communication, meaning information is exchanged clearly, completely, and openly, is essential for co-creation success, as it helps collaborators to understand and learn from each other, which is essential for mutual understanding and the integration of perspectives. It plays a vital role in planning, conflict resolution, addressing concerns, managing expectations, and nurturing relationships. To minimize miscommunication, use familiar communication channels and regularly discuss communication processes with collaborators to maintain a mutually feasible approach and prompt issue resolution.

(iii) Capacity building

Co-creation requires a number of capacities which are not always required in regular public health research. As such, public health researchers planning to apply co-creation should consider whether their team has these capacities. Figure 3 illustrates recommendations for identifying and developing key skills based on our experience.



Figure 3. Recommendations for developing skills that facilitate co-creation approaches.

(iv) Practical matters

Co-creation methods often require significant investments of time, funding, and expertise. These can include building and maintaining relationships with collaborators, travel expenses, workshop facilitators, and dissemination of findings. Consider starting with a smaller project to gain insights into the work and resources involved. Leveraging 'in-kind' resources from your collaborators, such as in-house expertise or materials, can be beneficial. Identify in advance which resources they can provide and communicate your needs accordingly.

The novelty and unfamiliarity of co-creation methods may complicate and delay ethics approvals. To address this challenge, consult colleagues at your institution

who have navigated similar projects successfully. Their expertise can offer valuable insights on how to present the required information in ways that facilitate the approval process.

Conclusion

Co-creation can be a valuable approach in public health research, as it offers various benefits such as enriched insight into problems, greater relevance of research questions and feasibility of solutions resulting in increased uptake and improved implementation of research findings, ultimately resulting in improved health-outcomes.

This perspective paper outlines key considerations for public health researchers interested in applying co-creation within their projects. While not exhaustive, these insights are intended to serve as a starting point for researchers adopting co-creation methods. It is hoped that the learnings presented in this paper will assist researchers in fostering meaningful engagement, enhance research outcomes, and contribute to the advancement of public health knowledge and interventions.

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