



SPECIAL SECTION

Coding with a transdisciplinary team – A project exploring unhealthy urban development

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Funding information

UK Prevention Research Partnership, Grant/Award Number: MR/S037586/1

Abstract

We are a geographer and a public policy researcher who share an interest in public health. In this paper we will explore coding in thematic analysis in a transdisciplinary qualitative study. We begin by introducing a moment from our 16-week coding phase to identify the challenges in working across disciplines on qualitative analysis. Transdisciplinary research is about meeting in space and time – between disciplines and ideas, currents of thought – and producing something greater than the sum of its parts. It creates challenges for producing good quality research while maintaining team cohesion. In discussing our coding practices and procedures, we highlight how paying attention to team dynamics and atmosphere creation is fundamental for working in large groups.

KEYWORDS

coding, dynamics, methods, teamwork, transdisciplinary

1 | INTRODUCTION: NAVIGATING DIFFERENCES IN A CODING MEETING

We are in week seven of our team coding, and an hour and half into the three hour online weekly meeting. During the weekly merging of team analysis files several new codes have been added. They are introduced and explained during the call by the proposer who explains why they are wanting to use it and what the code will cover. The code is due to join a group of nearly 20 sub-codes under the parent code ‘actor network’ within a large codebook. The geographer, who manages the NVivo file, is charged with merging the file and introducing the researcher’s new codes. The public policy researcher, who chairs the meetings, seeks to find common ground in the group when needed. Both of us are trying to identify collaboration and compromise from the researchers in our transdisciplinary project. We are trying to steer the discussion together towards a resolution. At this point in the weekly meeting, there is disagreement about the proposed new code that would be a sub-code under actor networks. Voices are starting to be raised, and people are talking over each other. One of the team suggest that it is unimportant, another that it is analogous to previous codes or that it replicates another code. However, the proposer does not want to back away from a code they feel adds value to the codebook and their own analysis by providing a specific connection between theory and practice. Colleagues from the group do not want to back away from challenging the proposition and they feel the codebook is getting too large. The problem is how

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ongoing code development should not restrict the adoption of new codes nor prioritise existing codes. In this sense coding involves the mutual and even-handed consideration of new codes and the removal or modification of existing codes.

The tension in the conversation was evident. Standing, so to speak, slightly away from the tussle, it is easy to see how both sides are correct and how they both need to give a little ground, make a little space for others. This need not be seen as a concession or a victory. Instead, it should be considered a sensitive, ethical process where ideas and codes can be shared openly, and thorough consideration given to all. There are obvious dynamics at play: senior and junior colleagues, more prominent or less prominent disciplines. This is not an isolated occurrence. Rather, this is part and parcel of transdisciplinary working, playing out in coding interview data. It is about navigating the confrontations between disciplinary thinking, working, and language. The result is about deciding what exactly a specific code represents, its value, and how this can find a space within transdisciplinary working.

1.1 | What were we trying to do?

Our experiences are from a transdisciplinary project examining how to make urban development healthier [‘Tackling the Root Causes Upstream of Unhealthy Urban Development’ (TRUUD)]. Our research team is based across six UK universities and includes expertise in public policy, medicine, public health, business management, law, geography, real estate, transport, and urban planning. The aim of our work was to identify upstream solutions and interventions to make urban development healthier (Barnfield, 2023; Bates, Ayres, et al., 2023; Black et al., 2021). Transdisciplinary teams are increasingly seen as important for research that works in complex problem areas, such as unhealthy urban development (Black et al., 2019). By bringing together a range of expertise and perspectives, such teams can co-develop new understandings and solutions beyond those identified by any single discipline (Pineo et al., 2021). However, challenges for transdisciplinary research include how methodological preferences, norms, and expectations vary substantially across disciplines, a lack of shared language, and management issues relating to power dynamics and team cohesion (Black et al., 2023).

This article reflects on our experiences within one part of this project: a large-scale qualitative study, and specifically the coding of a large transdisciplinary dataset. We conducted over 130 qualitative interviews to understand how decisions are made in the urban development system. We had eight interview sub-teams investigating sectors relevant to their expertise as part of one overall study. The challenge we faced was to develop one single coherent and consistent dataset for transdisciplinary thematic analysis. To achieve this, we needed to support the large team to work together as a whole, following shared methods and processes, while avoiding an overly top-down decision-making style that could threaten team cohesion by disempowering and disadvantaging researchers in some disciplines while favouring the preferences and needs of others. This is a fine line to tread. The approach we took was to balance allowing individuals the autonomy over some aspects of the study with shared methods on others, achieved through group decision-making. We have written elsewhere about our experiences of this and provided more detail on study methods (Bates, Le Gouais, et al., 2023).

We represent two of the disciplines from the project: Geography and Public Policy research. The geographer was the Masterfile manager, and the public policy researcher was the chair of the coding meetings. In this paper we discuss how we developed an approach to coding interview transcripts in a transdisciplinary project. The process of coding data in a thematic analysis (Braun & Clarke, 2019) was at the heart of this qualitative study and was where many of the challenges of large-scale transdisciplinary research played out. The primary aim of the coding process and associated conversations was to co-create a single codebook that was representative of the entire transdisciplinary dataset and could be used by – or was acceptable, accessible, and meaningful to – all researchers in the team. However, the researchers varied in their methodological preferences that had been shaped by their own disciplines and experiences and lacked a shared language and understandings about key concepts. Additionally, the nature of working across institutions and a large team meant that researchers were working at different paces within the parameters of the study timeline. Coding data consistently to demonstrate the trustworthiness of qualitative research can be challenging in any team, but in these circumstances the challenges grow and require additional attention to overcome.

1.2 | Data analysis, procedures, and merging

The online coding meetings were held weekly at the same time on the same day for four months. The Masterfile manager shared their screen, and the chair facilitated a group discussion around each new code with the code proposer outlining their rationale, what each code signified, and how it had been used. Each member in the meeting would then have the

opportunity to comment before the chair and Masterfile manager asked the group to either support or reject the new code or merge it with an existing code. Having sufficient clarity on the meaning of each code was key to ensure consistency in how it was applied across the team. Deciding on what a code really meant in a transdisciplinary setting was challenging, however. We reflect this was largely due to the way different disciplines approach problems and the language used to represent similar problems (Ellis et al., 2008).

The eight sub-teams were responsible for interviewing participants within their disciplinary area and coding their own transcripts. Transcripts were anonymised and checked for accuracy and then uploaded to a single NVivo Masterfile (QSR International Pty Ltd, 2018). The Masterfile was then shared for team members to use a local copy for coding. To develop a coherent dataset, we agreed to use a common coding framework starting with an initial set of deductive codes developed from ten transdisciplinary literature reviews undertaken by each sub-team in advance of this study. These were clustered into categories and included in the first version of the NVivo Masterfile. Over time we developed a deductive-inductive codebook (Braun & Clarke, 2019) with new codes added on a weekly basis. Our rationale was to enable the different sub-teams from different institutions to code their transcripts, using the team codebook, within in their own timescales and interview schedules while ensuring consistency and rigour (Bates, Ayres, et al., 2023; Bates, Le Gouais, et al., 2023). This was successful because in-team discussion set up researchers for broader whole-team discussions. It also supported a degree of analysis and refinement in sub-teams as well as flexibility over timescales and deliberation. The process we followed is summarised in Figure 1.

In any large team coding, consistency is an issue. To understand coding consistency, a small batch was double coded later in the process. Perceptions about coding consistency differed. For example, researchers with a management background called for the team to assess the consistency of coding across the team through statistical tests of intercoder reliability, citing the importance of this for publishing in prominent journals in their discipline. Some members of the team, however, felt strongly that such a quantitative approach was not appropriate, reflecting the dominant attitudes in

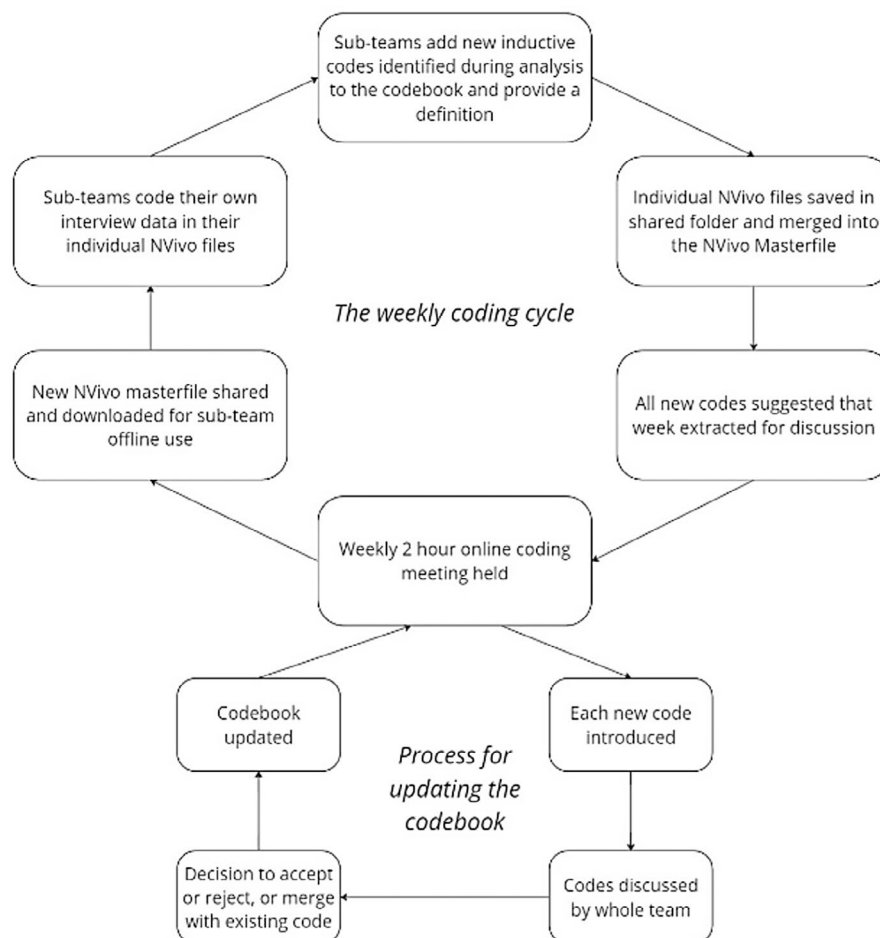


FIGURE 1 Codebook development.

their own disciplines and/or their previous experiences. Recent research in qualitative methods suggests that there is no universal approach and that intercoder reliability is not always appropriate (O'Connor & Joffe, 2020). However, compromise is fundamental to team-coding and transdisciplinary work, finding a method or adopting a method that enables supportive dialogue and coding practices.

The coding process and codebook was not the aim nor final part of the transdisciplinary analysis. Following the completion of the coding, we developed collaborative written summaries of each coding category and compiled reports developed from the whole dataset (Baxter & Eyles, 1997; Hasan et al., 2023). The collaborative summaries were produced with input from researchers from across the transdisciplinary team to ensure that insights and conclusions were based on the different disciplinary, theoretical, and practical perspectives that the team represented (Schiellerup, 2008).

We developed an approach from thematic analysis in order not to restrict the different paradigms and epistemologies from within the team and potential avenues for further research (Braun et al., 2018). We sought to give room for researcher and disciplinary preferences where this did not undermine the quality of our dataset. For example, in some disciplines an activity such as member checking is popular for improving and demonstrating trustworthiness in qualitative research (Turner & Coen, 2008). However, this is not universally supported (Motulsky, 2021). Enforcing any one approach across a large team with diverse preferences and backgrounds would have been divisive and damaged team cohesion. However, the inclusion of the whole collaborative group enabled different experiences and disciplines to inform sense checking the findings and conclusions. While this was not easy, it did encourage mutual sharing of ideas and a space for constructive dialogue.

2 | CODING IN A TRANSDISCIPLINARY WAY

2.1 | Deciding on what a code really means when working in an interdisciplinary team across disciplines

One of our first tasks was to co-develop transdisciplinary literature reviews of ten key concepts relating to the problem space of the project. It was during this phase that we were able to develop a broad level of understanding of the different ways our disciplines approach certain topics and the language they use. This was important because the research data included sector-specific language and topics. This meant that researchers were required to navigate their own field and the shared field that we created during the development of the transdisciplinary reviews and the codebook. Thinking creatively about the connections helped. It was part of a process of co-developing a shared language to talk about our data and to think through meanings and intentions of pieces of data, and their subsequent codes (Bailey et al., 1999; Hitchings & Latham, 2021). For example, what actor networks means in real estate is different than in policy studies or law, but together we appreciated the nuances and connections. In real estate it meant concretely networks of specific actors, while in policy and geography it also signifies the role of non-human actors and influences from actor network theory (Latour, 1996).

Allowing all members to openly discuss each code, while time consuming, led to a freedom in the discussion and an openness in the dialogue between team members that helped to foster trust and understanding. The chair sought to allow everyone to discuss and dispute any new codes during the coding meetings. This was to ensure that everyone was valued, participating, and that the coding was a product of the whole research team. There were times when consensus was hard to reach. We had codes proposed later in the coding that some researchers felt were similar to already existing codes, but others felt were distinct and necessary to convey nuance in the data. Because the team progressed coding at different paces, those that were further ahead were sometimes frustrated at having to discuss lots of new codes proposed by those who were only starting to explore their own data. While many new codes were accepted to maintain those feelings of value and ensure that all researchers had equal opportunity to influence codebook development, we also used colour markers and different in-programme tools in NVivo to hold a code for a week or two to see how the researchers used or did not use them. This process was aided by the definition of each code and the openness of not trying to pin down a single, exact meaning of each code (Bates, Le Gouais, et al., 2023).

We reflected that trying to agree a single specific definition for each code would be impossible across a large coding team, so we allowed for some nuance in interpretation while ensuring a shared broad understanding. We sought to encourage the differences to emerge during the coding meetings to generate an openness in the team. We sought to develop a sense of togetherness, an atmosphere of shared exploration by paying attention to the fluctuating tensions within

the group. We attempted to develop an affective environment that was based on our shared vulnerabilities (Berlant & Stewart, 2019).

2.2 | Pulling different disciplines together to think and code

There are different styles to coding. There is no correct or incorrect way; however, coding in a transdisciplinary team did enable us to think carefully about how to draw together different researchers, rather than disciplines. Differences in approaches are not necessarily tied to disciplinarity, school of thought, or theoretical perspective. However, when writing this paper, we admit that we do see this point slightly differently from each other – one leans more towards disciplinary differences and the other that there are not such profound differences. As part of our work in the project, we used many of the analytical tools available in NVivo to understand how each of the researchers and teams were coding their transcripts. For example, points of contention that we encountered were how many times one piece of data can be coded and how we should manage different sub-teams progressing coding at different paces. Should the same interview quote be allocated to as many codes as possible or just to the first one or two codes that the researcher considers to be the most relevant? As the codebook was continually developed, is there a need to go back and re-code previously coded interviews to be inclusive of new codes? There is no definitive answer to such questions, but being aware of such points of departure or arrival involves an appreciation of team dynamics (Brearley, 2015).

We reflect on the importance of fostering a positive team environment that is accepting of different perspectives and comfortable with working with greater uncertainty and variation in processes than in many smaller scale qualitative studies. While it is perhaps stating the obvious, teams engaging in transdisciplinary coding and analysis need to be open to the principles of transdisciplinary working. We found that while there may be certain characteristics of disciplines and lines of enquiry, the openness to transdisciplinary working rests more on individual characteristics. For example, younger, less experienced researchers appeared more open to experimentation. They were more likely to find compromise and open new lines of thought and enquiry (Kuby et al., 2016). This could be for many reasons, but the way ideas are taken up in many different disciplines certainly has helped to break down strict disciplinary boundaries.

To pull the different researchers together, we paid attention, and took time, to understand the dynamics of the transdisciplinary team (Brearley, 2015). A shared experience of playing in team sports helped us to listen out for subtle changes in tone and atmosphere (Berlant & Stewart, 2019). This involved an attentiveness to shifts in tone and texture of coding meetings. It helped to create an atmosphere that was seeking opportunity, rather than close down, lines of flight (Guattari, 2015). Keeping hold of moments of joy and brevity certainly proved valuable. This included sharing a moment of wonder at a well-turned phrase or providing space for a digression into a funny anecdote. The key thing is to nurture any moments of wonder, even if they take you slightly out of the topic under discussion.

3 | CONCLUSION: WHAT DOES TRANSDISCIPLINARY WORK BRING TO GEOGRAPHICAL METHOD?

We come from two different backgrounds. One from Geography and one from Public Policy. There are two ways to think about the connections and interactions between geography and transdisciplinary work. First, in terms of what geography brings to such arenas, one could argue that it is a discipline that has benefitted from a tradition of encountering different ideas, methodologies, and styles of thought that encourage geographers to be open to possibilities (Hitchings & Latham, 2021). However, many disciplines could make similar claims. For example, public policy research also has a rich tradition of engaging with different theories and ways of conducting investigation and analysis (Cairney, 2019).

Second, in terms of what working and thinking in a transdisciplinary manner brings to geography, transdisciplinary working offers affordances to develop new possible lines of investigation, create novel solutions and ideas, and be generative of fresh multiplicities in thought and action (Guattari, 2015). Importantly, this means going beyond what a single, albeit multifaceted, discipline can do alone. Transdisciplinary working, when well-conducted, provides a challenge to disciplinary-dominant ideas and ways of conducting research: from over-arching theories to the way codes and pieces of data are talked about. It also fosters innovation, pushing new methods and new combinations to create something more than disciplines working together, but something that has developed from the space between disciplines – a space that provides an open field, a fertile area to create something shared.

Our experience has taught us that there are three key elements to transdisciplinary working that are worth paying attention to. First, we think that rather than solely disciplinary background, it is a mixture of researcher disposition that counts when assembling a transdisciplinary research team and that this closely aligns to having clear expectations about potential differences as a means of preparation for team members working together. Specifically, how comfortable they are working in the challenging environment of transdisciplinary research, and how they manage tension, uncertainty, and the inevitable challenge of finding a shared way forward when working with different perspectives to their own. Second, attention needs to be paid to the interactions between researchers. We agree that thinking carefully about team dynamics, the interplay between characters is fundamental to creating the right terrain to develop transdisciplinary ideas. Third, fostering a supportive atmosphere is essential to large transdisciplinary projects. This can be achieved in all sorts of ways. For example, in physical meetings it involves the layout of rooms and the types of materials that are used. In online spaces, we found that leaning into moments of brevity and accepting the need for composure during digital communications helped tremendously. It is easy in online situations to disrupt regular communication; this is only amplified during meetings relating to personal work and understanding of interview material. However, being able to offer a chance or a pause for reflection and contemplation is extremely helpful.

What did the discussions that we have described say about the way we approached things? We hope that it went well, and everyone felt listened to and supported. We hope that we brought an awareness of the different ways of working and challenges that the different researchers faced, and we hope that it was fun. It is a privilege working as a team on projects like this, hopefully in a creative, supportive atmosphere that fosters well-thought out, and well-considered impacts.

ACKNOWLEDGEMENTS

We would like to thank Professor Russel Hitchings and Dr. Lauren Wagner for organising the RGS 2023 conference sessions ‘Digging into data’ and this special edition. Extra thanks to Lauren who helped to shape this paper. We would like to thank the participants from the conference and our colleagues from the wider TRUUD team. This work was supported by the UK Prevention Research Partnership (award reference: MR/ S037586/1), which is funded by the British Heart Foundation, Cancer Research UK, Chief Scientist Office of the Scottish Government Health and Social Care Directorates, Engineering and Physical Sciences Research Council, Economic and Social Research Council, Health and Social Care Research and Development Division (Welsh Government), Medical Research Council, National Institute for Health Research, Natural Environment Research Council, Public Health Agency (Northern Ireland), The Health Foundation and Wellcome.

DATA AVAILABILITY STATEMENT

Data sharing not applicable to this article as no datasets were generated or analysed during the current study.

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How to cite this article: Barnfield, A. & Bates, G. (2025) Coding with a transdisciplinary team – A project exploring unhealthy urban development. *Area*, 00, e12998. Available from: <https://doi.org/10.1111/area.12998>