Working ‘upstream’ to reduce social inequalities in health: a qualitative study of how partners in an applied health research collaboration interpret the metaphor

Naoimh E. McMahon

National Institute for Health Research School for Public Health Research (NIHR SPHR), Division of Health Research, Lancaster University, Lancaster, UK

ABSTRACT
Evidence suggests that despite the popularity and influence of key health equity concepts, they often fail to shift the thinking and actions of health workforces towards the social and structural determinants of health inequalities. These findings tend to be attributed to institutional constraints, along with the role of influential discourses which promote a focus on individuals and behaviours. However, questions have also been raised about the clarity and utility of the concepts themselves, and the extent to which the language they use works (or indeed fails to work) in reorienting thinking and action. The purpose of this study was to explore how partners in an applied health research collaboration in England interpreted the popular ‘upstream-downstream’ story, and what it means to work ‘upstream’ to reduce health inequalities. Where participants were not familiar with its academic or technical usage, the story was taken to be a metaphor for prevention generally, or it prompted a root cause analysis of the more discrete ways in which inequalities were encountered in participants’ research or work. Even in instances where participants did hold more socio-political perspectives, these were often not evoked by the metaphor itself. Two of the 18 participants were unable to equate the metaphor with particular actions or ways of working, while others found it to be a poor fit with how they understood inequalities. The study findings illustrate and explain the challenges that arise when technical metaphors from the health equity literature are opened-up to interpretation by wider audiences.

Introduction
Successive national and international inquiries into social inequalities in health have culminated in an explanatory account which sees lifestyle behaviours as symptomatic of underlying social and structural determinants (Acheson, 1998; Department of Health and Social Security, 1980; Marmot et al., 2010, 2008). In this account, the social determinants of health relate to the conditions in which people live, conditions which are in turn shaped by ‘a combination of poor social policies and programmes, unfair economic arrangements, and bad politics’ (i.e. the structural determinants) (Marmot et al., 2008, p. 1). However, despite this emphasis on the need to reorient health system efforts towards influencing root causes, evidence suggests that numerous obstacles exist to realising this ambition in practice. For example, research has shown that even when there is an apparent national commitment to reducing inequalities, health system leaders are held to account only for
more immediate and politically sensitive indicators, such as waiting times and finances (Exworthy et al., 2002). Performance assessment and monitoring around inequalities indicators have also been found to reinforce a short-term focus on ‘quick wins’ (such as targeted primary prevention), at the expense of influencing wider determinants (Blackman et al., 2009; Orton et al., 2011). More recent inquiries have specifically sought to examine how health practitioners themselves come to think about and understand social inequalities in health. Study findings illustrate the pervasive role of biomedical and neoliberal discourses in promoting a narrow conceptualisation of health, and a focus on individual responsibility and behaviour (Babbel et al., 2017; Brassolotto et al., 2014). Importantly, even when practitioners discuss the role of social conditions, this rarely leads to consideration of the political processes which shape them (Mackenzie et al., 2017; McIntyre et al., 2013). As a result, it is argued that the social determinants tend to be depoliticised in practice, and are often reinterpreted as individual risk factors for health, to be mitigated through targeted intervention amongst at-risk groups (Mackenzie et al., 2020; Mead et al., 2020). Evidence thus suggests that, despite increasing awareness of the problem, key health equity concepts have yet to realise their full potential in reframing inequalities in health, and in reorienting thinking and action towards their social and structural causes.

These findings, however, also provide empirical support for critiques that have been levelled at the social determinants of health (SDH) concept itself. It has been suggested that, by design, the concept promotes reductionist thinking because of its focus on discrete categories of determinants, rather than the social processes which shape their distribution (Hankivsky & Christoffersen, 2008). To more effectively promote the latter, a subtle change in language has been proposed to encourage a move away from speaking about the social determinants of health, to instead consider and theorise the social determination of health (Spiegel et al., 2015). In a related way, some authors have been critical of how the SDH concept seems to have given rise to a wide spectrum of perspectives about the nature of the problem, and actions needed. These perspectives are said to range from an individualised or ‘functional’ focus which is limited to identifying those in need of health services and interventions, to more ‘structural’ approaches which explicitly seek to illuminate the role of power and politics in shaping public policy (Brassolotto et al., 2014; Raphael, 2011). Indeed, it has been suggested that ‘depoliticised’ interpretations should not come as a surprise, especially when the most popular visual representation of the SDH concept, the Dahlgren and Whitehead (1993) rainbow model, does not attend to the role of political economy (Krieger et al., 2012). Thus, while not disputing the popularity and influence of the SDH, this literature highlights how a diversity of interpretations can arise due to the ‘definitional vagueness’ of the concept (Herrick & Bell, 2020).

While empirical research has, to date, tended to focus on interpretations of the social determinants of health, there are a number of related ideas and metaphors which similarly aim to promote more ‘structural’ understandings of social inequalities in health. A notable example is the ‘upstream-downstream’ metaphor, first introduced in the form of a short story:

‘You know’, he said, ‘sometimes it feels like this. There I am standing by the shore of a swiftly flowing river and I hear the cry of a drowning man. So I jump into the river, put my arms around him, pull him to shore and apply artificial respiration. Just when he begins to breathe, there is another cry for help. So, I jump into the river, reach him, pull him to shore, apply artificial respiration, and then just as he begins to breathe, another cry for help. So back in the river again, reaching, pulling, applying, breathing, and then another yell. Again and again, without end, goes the sequence. You know, I am so busy jumping in, pulling them to shore, applying artificial respiration that I have no time to see who the hell is upstream pushing them all in.’ [emphasis in original] (McKinlay, 1979)

Metaphors are ubiquitous in language and daily life, and they serve to encourage us to understand ‘one kind of thing or experience in terms of another’, proving particularly useful when they allow for complex and often unobservable phenomena to be thought about in terms more familiar, tangible, and more easily understood (Lakoff & Johnson, 2008). Such is the case with this ‘upstream-downstream’ story, which clearly illustrates the futility of dealing only with the symptoms of a problem, without ever considering what (or who) is the cause. While the metaphor was first discussed in relation to cardiovascular disease, its scope has since widened and it is now extensively
used in making the case for action to reduce social inequalities in health. Indeed, it was central to the arguments put forward in the Acheson Report in England (Acheson, 1998), and more recent analysis of the health equity literature has further illustrated how the metaphor is explicitly used to reframe inequalities, and argue for policies, programmes, and ways of working to influence underlying social and structural causes (McMahon, in press). However, when used to frame problems, metaphors influence our reasoning by highlighting some aspects of phenomena while leaving others hidden or obscured (Gentner & Gentner, 1983; Semino, 2008; Thibodeau & Boroditsky, 2011). Despite its popularity, the ‘upstream-downstream’ metaphor is consequently not without its critics, who suggest that the metaphor promotes a flawed dichotomy between societal factors and individual behaviour (Krieger, 2008; Sniehotta et al., 2017), and also serves to obscure how people ‘downstream’ can mobilise to challenge ‘upstream’ influences (Krieger et al., 2012). A further potential difficulty is that the metaphor has, arguably, become conventionalised over time, to the point where it is treated less as a metaphor, and more as a technical term. As Semino (2008) describes, this can prove particularly problematic when technical metaphors are opened-up to interpretation by non-expert audiences. To my knowledge, the extent to which the ‘upstream-downstream’ metaphor does work as intended amongst wider audiences, has not yet been empirically investigated. This study addresses this gap and details the potential challenges and pitfalls of using the metaphor to reorient thinking and action towards the social and structural causes of social inequalities in health.

Methods

The research was conducted in an applied health research collaboration covering four counties in the North of England, and which brought together a range of partner organisations to work around a common goal of reducing social inequalities in health, or as they were more commonly described within the collaboration, health inequalities. Partners included senior researchers from three academic institutions; service-providers and managers from 30 National Health Service (NHS), local government, and third sector organisations; public advisors; and postgraduate research students. The diverse nature of the collaboration, which spanned topics from acute care to public health, provided a unique opportunity to explore how different partners, who had varying degrees of familiarity with health inequalities, interpreted and understood the ‘upstream-downstream’ story. To ensure representation from across all facets of the collaboration a purposive sampling strategy was used. Invitations to participate in the study were shared via email with key contacts; by presenting at events with partners; and through snowball sampling where interviewees shared the study information with colleagues. In both the invitation to participate, and the study information sheets, the purpose of the interviews was explicitly described as exploring the idea of working ‘upstream’ to reduce health inequalities. Eighteen people took part in the study, which included academic staff (n = 4), public advisors (n = 4), practitioners from NHS, local government, and third sector organisations (n = 6), and postgraduate research students (n = 4). Thirteen were women and the majority (n = 14) reported ‘White’ ethnic background (See Supplementary Material, Table 1). Study participants were involved in the collaboration to varying degrees, ranging from regular attendance at training and events, to only peripheral engagement to report on the progress of funded research. Some will consequently have had the opportunity to regularly interact with each other and perhaps collectively develop their understandings of health inequalities. However, this was not the case for the majority of participants. Additionally, while the overarching ambition of the collaboration was to carry out research which could contribute to reducing health inequalities, and embed a health equity lens across the whole portfolio of work, there was substantial variation in people’s knowledge and understanding of health inequalities, and indeed ideological persuasions from the outset.

Interviews took place at a location of the participants’ choosing. During the interviews, NMcM further elaborated on the study rationale for participants: that while people often talk about the ‘upstream’ determinants of health, it’s not as easy to articulate a vision of what it would mean to work ‘upstream’ or
in an ‘upstream’ way to reduce health inequalities. Participants were assured that the study was not an evaluation of the research collaboration, nor was it an assessment of the extent to which their own work or research was ‘upstream’ in nature. Rather, the interviews were described as a reflective exercise to see whether the ‘upstream-downstream’ story was a useful metaphor which made sense and resonated with participants, and to explore the types of activity which they felt to be reflective of the underpinning principles of the story. The story was told at the outset of each interview and participants were asked what they felt it meant in the context of reducing health inequalities. Following this opening question, the interview was unstructured and participants were encouraged to articulate and develop their thinking on hearing the story. Visual prompts that covered a range of different interventions and activities were developed to facilitate discussions if needed. These prompts fell into five categories: health risk behaviours; social determinants of health; coverage and effectiveness of NHS interventions; capacity building and public engagement; and activism and advocacy. The prompts were used with seven of the 18 participants who, while providing an interpretation of the story, did not have strong opinions on what exactly it referred to, and so benefitted from using prompts to think out loud and articulate how they were distinguishing different types of action in their minds.

Transcripts of the interview recordings were read multiple times to gain familiarity with the content prior to undertaking the analysis. Drawing on insights from social constructionism (Burr, 2015) and discourse analysis (Willig, 2013), the approach involved examining how interviewees, through their interpretations of the ‘upstream-downstream’ story, implicitly and explicitly constructed the problem of health inequalities, and in doing so illustrated their explanatory theories of what drives and sustains inequalities. Through this process, and by examining the wider discourses within which participants situated their arguments, it was possible to identify distinct groupings which reflected how participants both problematised inequalities and interpreted the story. Over the course of the interview, participants often covered a breadth of topics, and consequently constructed health inequalities in a multitude of ways. All versions were captured in the analysis, while also noting which version of the problem participants called to mind when interpreting the ‘upstream’ story. Reflections articulated by the participants on how they were making sense of the story, and some of the challenges arising were also noted. To protect anonymity, participant identification numbers and their quotes are not linked with the characteristics provided in Table 1 in the Supplementary Material. The study was granted ethical approval from the University of Central Lancashire’s Science, Technology, Engineering, Medicine and Health committee (Ethics number: STEMH573). The terms metaphor and story are used interchangeably throughout the remainder of the article.

**Findings**

Fourteen of the 18 participants had either heard the phrase ‘upstream’, or were familiar with the ‘upstream-downstream’ story, with just four hearing it for the first time as part of the interview. All bar two participants felt that they could make sense of the story, and were able to provide an interpretation of what they thought it would mean to work in an ‘upstream’ way to reduce health inequalities. The study findings demonstrate: (i) how the idea of working ‘upstream’ is relative to the problem you have in mind, (ii) that ‘big picture’ perspectives are often not integrated with how people interpret the story, and (iii) that ‘upstream-downstream’ is a problematic dichotomy. These points which will each be discussed in turn.

**Working ‘upstream’ is relative to the problem you have in mind**

Interview participants were generally found to hold multiple constructions of health inequalities, reflecting ‘zoomed-in’ and ‘zoomed-out’ versions of the problem. As illustrated in the following quote, when asked about the idea of working ‘upstream’ or at the ‘root causes’ of health inequalities, participants had to negotiate which version of the problem to focus on:
Well, it’s hard, you’re saying the root cause, the root cause of what? Just health inequalities as a big, massive, I mean that’s a big spectrum all in itself, the root cause of what, the fact that there are health inequalities, or the root cause of health inequalities in one instance? (P11)

Participants’ perspectives were ultimately found to reflect the version of the problem that they called to mind when making sense of the ‘upstream-downstream’ story, and based on their perspectives, participants could be divided into three distinct groupings. Those who interpreted working ‘upstream’: (i) as actions to improve material and social conditions, (ii) as ensuring equitable access, uptake, and benefit of health services, or (iii) as targeted prevention and early intervention (see Supplementary Material, Table 2).

**Group 1: working ‘upstream’ as actions to improve material and social conditions**

Six participants, when articulating their interpretation of the story, treated health inequalities ‘like the canary in the coal mine’, where their existence was seen to be indicative of broader social inequality. For these participants, the story generated discussions about the nature of action needed to influence the wider material and social conditions shaping life experiences and health outcomes, and two main arguments were put forward. Firstly, were those who emphasised the importance of government policy (local and national) which could positively impact on social inequality (P02, P12, P13). One participant, for example, highlighted the support which such policies enjoyed amongst the public when implemented under the New Labour government in England:

… I think it was ’98, if you look at what had happened between 1980 and 1998, there was such a huge embrace of people accepting that, yes, there was that social inequality and that would include education as well as the health sector, so, there were more clinics being built, there were more maybe things like, was it during the Blair government when they tried to introduce Sure Start, I think that was an effort to try and address opportunities right from the young age … (P12)

In contrast, three participants (two of whom were public advisors) equated working ‘upstream’ with community level actions to both empower those who are struggling (P04, P08), and to build alliances through which communities themselves could push for more fundamental social change (P07). These participants were especially concerned to highlight the complexity of the challenges which people face, and the often profound disconnect between actual needs and public health interventions:

… you know Maslow’s hierarchy? It’s that, if you are struggling, day-to-day to survive so if you’re in poverty and you’re trying to feed your kids, if you’re in a dangerous situation because of a partner or gangs on the street or whatever, you’re just surviving day-to-day, you can’t possibly break through that without something supporting you, it’s those sorts of social structures that I’m talking about and that is not about the petticoat police coming in and telling you how to bath your baby, or give you milk tokens or what the hell, that’s not enough, that’s not what it’s about, it’s about empowering people, through their existing social networks and structures, and helping them to get to the point where they can look up over the parapet … (P08)

Where specific policies were discussed by these three participants, the emphasis was often not on the actual material gains which would ensue, but rather the social and emotional boost for those who are currently alienated in society through financial insecurity and deprivation. For example, in arguing for the value of a universal basic income, the primary benefit was said to be that ‘you can participate more in society, you can participate in the norm, what we call norm, in a social psychological sense, and because you can participate your health will be maintained’ (P07). Importantly, the three participants from the sample who were familiar with the academic use of the metaphor, and who provided a critique of ‘downstream’ individually targeted behaviour change interventions, belonged to this group (P02, P07, P13).

**Group 2: working ‘upstream’ as ensuring equitable access, uptake, and benefit of health services**

Five of the 18 participants called to mind specific instances of health inequalities when interpreting the ‘upstream-downstream’ story, and these most often related to inequities in health service design
and delivery (see Supplementary Material, Table 2). These participants tended not to articulate a sense of what constituted ‘downstream’ action, and the story instead served to prompt a discussion of the root causes of the problem of interest (i.e. inequitable access) and how they could be addressed:

I think for me, that upstream action is to ensure that everybody does get equal opportunities by taking those other things into consideration like language barriers, or not having the facilities to travel to an appointment or needing to be accompanied to appointments and that’s where I think the differences come in place. (P05)

One participant further suggested that the metaphor reflected their experience of working at a ‘more strategic level’ within organisations to implement such changes:

... you need to go fairly upstream to be able to look at all the policies and service procedures that they’ve got written down to make sure that they’re in the way that they should be, so that people can roll out the service to make some changes so that we can address health inequalities. (P03)

They went on to describe the challenges of working in organisations where things are ‘quite structurally set and quite difficult to change’, and where, from a strategic perspective, there is a need to ‘look at all the links in the chain and basically rebuild the chain with this health inequalities lens within it’ (P03).

Group 3: working ‘upstream’ as targeted prevention and early intervention

Lastly, five participants equated the ‘upstream’ story with targeted prevention and early intervention. For this group, the essence of the metaphor was taken to be about the timing, rather than the nature of intervention, where the goal is ‘to stop people jumping in the river and ending up downstream in the first place’ (P01), and where ‘downstream initiatives are waiting until they come into A&E and it’s already too late’ (P10). When asked, these participants were not inclined to differentiate between different types of preventative intervention. In the following example, this participant is reflecting back on a comment I’ve made describing how some people would see individually targeted lifestyle interventions as downstream in nature:

I wouldn’t agree with that. Because I think some interventions that target the individual are upstream... because you’re changing their lifestyle before problems become manifest, so I wouldn’t agree with that. (P01)

While there was greater heterogeneity in the underpinning constructions of health inequalities amongst this group (see Supplementary Material, Table 2), the potential for preventative interventions to reduce health inequalities seemed implicitly to reflect the fact that they were targeting specific population groups or localities.

‘Big picture’ perspectives not integrated with interpretations of the metaphor

Importantly, of the 10 participants who interpreted the ‘upstream-downstream’ metaphor in light of narrower versions of the problem (i.e. groups 2 and 3), six also went on to discuss the influence of wider structural forces in driving health inequalities (see Supplementary Material, Table 2). For example, one participant who initially focused on inequitable health services, further reflected:

I think you can kind of get yourself in a bubble looking at your own issues but it kind of gets you down, and I think it gets me down in my own research when you think, I’m trying to do this, I’m trying to do that, and then you think, ‘Oh for God’s sake, why am I even bothering?’ You know, the bigger issues are there, there’s a massive inequality in economic resource etc., how am I going to change this, change that, because the issues are bigger than something I can sort. (P11)

During the interviews, participants referred to these ‘bigger issues’ or the ‘big picture’ to express concerns both about local environmental contexts, along with national policy approaches which were felt to undermine the best efforts of delivering services locally:
... why do we need so many off licenses on the corner, and so many chippies and fast food outlets, you know, what is that doing to the health of people, all the playing fields are getting cut back aren’t they because there’s a big drive to build houses because land is really valuable ... (P01)

I think it’s just getting worse for people, because of the Government and what their beliefs are around benefits and all the rest of it, and they don’t see the big picture, they don’t understand life outside of the political world, and their privileged world, and until that starts getting addressed then it’s very hard, from a health perspective, to address everything else, and we can all do interventions locally and all the rest of it but, that big picture needs to be addressed, and it’s only going to get worse as well, because you’ve got that massive, that divide is just getting bigger and bigger between the have’s and have nots. (P18)

That these ‘big picture’ or more ‘structural’ perspectives were not initially prompted by the metaphor suggests that participants may have been providing an account of what they understood working ‘upstream’ to mean for them rather than more generally, and consequently they focused on the more discrete ways in which they encountered health inequalities in their research or work. Across the sample, just two participants were explicit in rejecting structural explanations and instead highlighted the importance of individual responsibility for health, suggesting that people are ‘quite happy living the way they are’ (P09) and that when it comes to unhealthy food for example, there’s ‘a lot of proud parents that believe it doesn’t do any harm or they’re happy with the way they treat their families’ (P10).

‘Upstream-downstream’ as a problematic dichotomy

While most participants felt that they could make sense of the metaphor, a number of challenges were identified which most often related to its dichotomous nature and distinguishing or labelling certain types of action as ‘upstream’ in nature. One participant, for example, found the metaphor to be counterintuitive as rather than going ‘upstream’ to get to the ‘root’ of the problem, you would be ‘working downstream, you’re starting at the bottom and working your way up, so at the grassroots’ (P11). When working through the visual prompts another participant, who subscribed to idea that interventions targeting individuals and behaviours were ‘downstream’ in nature, reflected:

... the way I’m trying to distinguish it in my head is not really helping me at all because I’m thinking things that are helpful to the individual to feel empowered and have some sense of control, I’m now trying to put all the onus back onto the individual in actual fact, it’s not down, my first point was it’s not about that person making bad choices or it shouldn’t all be down to the individual, it should be down to all sorts of other things. (P04)

There was also an example of a participant who had initially articulated their understanding in terms of different levels in the system (i.e. where upstream was national government policy). However, over the course of the interview they reflected that ‘when we talk about upstream interventions it’s not only the level at which they happen, it’s the ability to address the root causes, which is different’ (P02). Finally, there were two participants who found that they couldn’t equate the metaphor with any particular way of working with one person, on hearing the story, reflecting:

Ah ... what comes into mind is that the person that’s constantly, if it is that same person, is going to be totally exhausted and not be able to do it, they’ll either collapse with exhaustion or they’ll just say, hey, for my own good I think I better just go. (P06)

Discussion

The ‘upstream-downstream’ metaphor in used in the health equity literature to explicitly reframe the problem of social inequalities in health in terms of their underlying social and structural causes, and to argue for policies, programmes, and ways of working to address these (McMahon, in press). However, the findings of this study suggest that rather than promoting a reframing of the problem, the metaphor tends to be interpreted by people in light of how they already think about social
inequalities in health, and in particular, in light of the more discrete ways in which they directly encounter inequalities in their research or work. Where participants were familiar with contemporary academic usage of the metaphor, or where they already held a broad understanding of health inequalities as reflecting wider structural inequality, the metaphor did prompt discussions about socio-political action needed to reduce inequalities. This group was not limited to university-based participants but also included two public advisors, and one NHS practitioner. However, for the remaining two-thirds of participants who were less familiar with the ‘upstream-downstream’ story, it was either taken to be an analogy for targeted prevention, or it prompted an analysis of the root causes of more discrete versions of the problem.

A key finding in this study is that participants’ interpretations of the ‘upstream-downstream’ story reflected the different ways in which they thought about social inequalities in health, and the versions of the problem which they brought to mind when tasked to interpret the story. In Groups 2 and 3, respectively, there was a tendency for participants to focus on discrete instances of inequalities which they were actively working to address within their services or regions (e.g. ensuring equitable uptake of screening services), and this was especially true for practitioners in the sample. This finding could represent a phenomenon described as substitution using heuristic questions, which occurs when individuals who are faced with a difficult or ambiguous question, intuitively substitute it for an easier one which they can answer (Kahneman, 2011, p. 98). Thus, despite participants being asked what they felt the ‘upstream-downstream’ story was calling for in terms of action to reduce social inequalities in health more generally, it seems that many provided accounts of what they felt the story meant for them in their own research or work. These narrower interpretations however may also result from the shorthand expression ‘health inequalities’ which seemed to be favoured across the collaboration, and which perhaps served to promote an understanding of inequalities as being predominantly about issues of equity in health services and health behaviours in high-risk groups, rather than as a symptom of wider structural inequality. While not surprising, and perhaps not a problem in and of itself, this tendency to transform a complex problem into smaller, more digestible, and indeed more actionable issues may go some way towards explaining why structural perspectives are not more widely embedded (Mackenzie et al., 2020; Mead et al., 2020). Importantly, however, in this study, it was not the case that the majority of participants didn’t hold such perspectives, but rather they were not immediately activated upon hearing the ‘upstream-downstream’ story.

The study findings also demonstrate the problems that can arise when a metaphor, which has become a conventionalised technical term within disciplinary lexicons, is opened-up to interpretation by a wider audience. As described in the Introduction, McKinlay (1979) originally employed the story to make an explicit distinction between ‘downstream’ efforts targeting individual behaviour, and the ‘upstream’ ‘manufacturers of illness’ who are responsible for pushing people into the river in the first instance (i.e. through the creation of harmful products and environments). It is this framing of ‘upstream’ which has underpinned its subsequent use and, over time, the term has arguably come to be treated less as a metaphor, but rather as a shorthand for the social and structural determinants of health. While this technical usage of the term was familiar to three participants, all others had to rely solely on the story itself (i.e. the source domain of the metaphor) when reasoning about what constituted ‘upstream’ action. The finding that participants’ perspectives differed from McKinlay’s account is therefore perhaps not surprising because while the story illustrates the futility of addressing symptoms rather than causes, it is not prescriptive about actions or pathways to change. Furthermore, the challenges which participants encountered in making sense of the story actually chime with the academic critiques detailed in the Introduction. Some participants found the hard distinction between individual and social factors was a poor fit with how they understood health inequalities, with others highlighting how the metaphor seemed to unhelpfully conflate system levels (e.g. national government action) with the potential to address root causes. Indeed, one participant went further to suggest that the language of ‘upstream’ ran counter to their understanding of the need to address root causes through effective action ‘down’ at the grassroots. One final point relates to how subtle differences in
the way details of the story are relayed can change its meaning, and may further explain why different interpretations arise. Lundberg (2020), for example, draws on a version of the story where, rather than being pushed, people are ‘falling’ into the river, to argue that it is was never appropriate to use the metaphor to distinguish between different determinants, arguing that the story is about prevention in terms of the timing, rather than the nature of intervention. Thus, while the meaning of the ‘upstream-downstream’ story is taken by some to be self-evident, this study illustrates a host of reasons why it might be interpreted differently by non-specialist audiences, and consequently may not be effective in reorienting thinking and action towards the social and structural causes of inequalities in health.

This was a small-scale study with a self-selected sample of participants who likely had a particular interest in the topic, and so the exact content of participants’ interpretations of the metaphor may not be generalisable to a broader sample. Additionally, the interviews were unstructured in nature and the visual prompts, which were designed to facilitate conversation, were not used with all participants. As shown in the Supplementary Material, Table 1, the prompts tended to be used with Group 2 (equitable services) and Group 3 (prevention), and although they did generate discussion, they did not lead to clearer or more concrete accounts of how participants were defining ‘upstream’ action. Nonetheless, it is possible that the unstructured approach may have contributed to the metaphor being discussed differently across interviews. Despite these potential limitations, the challenges and pitfalls identified in this study will likely have wider applicability. All metaphors inevitably breakdown under scrutiny and, as evidenced in this study, particular problems can arise when a metaphor, which has become conventionalised over time, is used to influence the thinking and reasoning of wider audiences. Additionally, a single metaphor simply cannot do everything and while the ‘upstream-downstream’ story has proven to be a popular and highly effective illustration of the need to move beyond tacking symptoms to address causes, it is less successful in specifically evoking structural perspectives on the problem of social inequalities in health. The study findings point to a need for communication tools that can bring to the fore structural insights that many people already hold, in ways which do not depend on prior knowledge of discipline-specific terminology, and which illuminate pathways through which such insights can be translated into feasible and credible actions for change.

Acknowledgements

I would like to thank Professor Caroline Watkins, Professor Mark Gabbay, and Dr Justin Jagosh for their supervisory support when undertaking this work as part of my doctoral studies. Thank you also to Professor Jennie Popay for constructive comments on an earlier version of the paper, and to two anonymous reviewers for their feedback which has helped to further develop and clarify the arguments presented.

Disclosure of potential conflicts of interest

No potential conflict of interest was reported by the author(s).

Funding

This report is independent research funded by the National Institute for Health Research Applied Research Collaboration North West Coast (NIHR ARC NWC). NMcM is currently funded by the National Institute for Health Research School for Public Health Research (NIHR SPHR) Postdoctoral Launching Fellowship. The views expressed in this publication are those of the author and not necessarily those of the National Institute for Health Research or the Department of Health and Social Care.

Data availability statement

The anonymised data that support the findings of this study are available from the corresponding author, NMcM, upon reasonable request.
References

Acheson, D. (1998). Independent inquiry into inequalities in health report. The Stationery Office.

Babbel, B., Mackenzie, M., Hastings, A., & Watt, G. (2017). How do general practitioners understand health inequalities and do their professional roles offer scope for mitigation? Constructions derived from the deep end of primary care. Critical Public Health, 29(2), 168–180. https://doi.org/10.1080/09581596.2017.1418499

Blackman, T., Elliott, E., Greene, A., Harrington, B., Hunter, D., Marks, L., McKee, L., Smith, K., & Williams, G. (2009). Tackling health inequalities in post-devolution Britain: Do targets matter? Public Administration, 87(4), 762–778. https://doi.org/10.1111/j.1467-9299.2009.01782.x

Brassolotto, J., Raphael, D., & Baldeo, N. (2014). Epistemological barriers to addressing the social determinants of health among public health professionals in Ontario, Canada: A qualitative inquiry. Critical Public Health, 24(3), 321–336. https://doi.org/10.1080/09581596.2013.820256

Burr, V. (2015). An introduction to social constructionism. Routledge.

Dahlgren, G., & Whitehead, M. (1993). Tackling inequalities in health: What can we learn from what has been tried? Working paper prepared for the King’s Fund International Seminar on Tackling Inequalities in Health, King’s Fund, Ditchley Park, Oxfordshire.

Department of Health and Social Security. (1980). Inequalities in Health: Report of a Research Working Group (The Black Report). London: Department of Health and Social Security.

Exworthy, M., Berney, L., & Powell, M. (2002). ‘How great expectations in Westminster may be dashed locally’: The local implementation of national policy on health inequalities. Policy and Politics, 30(1), 79–96. https://doi.org/10.1332/0305753022501584

Gentner, D., & Gentner, D. R. (1983). Flowing waters or teeming crowds: Mental models of electricity. In D. Gentner & A. L. Stevens (Eds.), Mental models (pp. 99–129). Lawrence Erlbaum Associates.

Hankivsky, O., & Christoffersen, A. (2008). Intersectionality and the determinants of health: A Canadian perspective. Critical Public Health, 18(3), 271–283. https://doi.org/10.1080/09581590802294296

Herrick, C., & Bell, K. (2020). Concepts, disciplines and politics: On ‘structural violence’ and the ‘social determinants of health’. Critical Public Health, 1–14. https://doi.org/10.1080/09581596.2020.1810637

Kahneman, D. (2011). Thinking, fast and slow. Penguin Books.

Krieger, N. (2008). Proximal, distal, and the politics of causation: What’s level got to do with it? American Journal of Public Health, 98(2), 221–230. https://doi.org/10.2105/AJPH.2007.111278

Krieger, N., Dorling, D., & McCartney, G. (2012). Mapping injustice, visualizing equity: Why theory, metaphors and images matter in tackling inequalities. Public Health, 126(3), 256–258. https://doi.org/10.1016/j.puhe.2012.01.028

Lakoff, G., & Johnson, M. (2008). Metaphors we live by. University of Chicago Press.

Lundberg, O. (2020). Next steps in the development of the social determinants of health approach: The need for a new narrative. Scandinavian Journal of Public Health, 48(5), 473–479. https://doi.org/10.1177/1403494819894789

Mackenzie, M., Hastings, A., Babbel, B., Simpson, S., & Watt, G. (2017). Tackling and mitigating health inequalities - Policymakers and practitioners ‘talk and draw’ their theories. Social Policy & Administration, 51(1), 151–170. https://doi.org/10.1111/spol.12154

Mackenzie, M., Skivington, K., & Fergie, G. (2020). “The state they’re in”: Unpacking fantasy paradigms of health improvement interventions as tools for addressing health inequalities. Social Science & Medicine, 256(113047). https://doi.org/10.1016/j.socscimed.2020.113047

Marmot, M., Allen, J., Goldblatt, P., Boyce, T., McNeish, D., Grady, M., & Geddes, I. (2010). Fair society, healthy lives: strategic review of health inequalities in England post 2010. University College London. https://www.instituteofhealthequity.org/projects/fair-society-healthy-lives-the-marmot-review/fair-society-healthy-lives-executive-summary.pdf

Marmot, M., Friels, S., Bell, R., Houweling, T. A., & Taylor, S. (2008). Closing the gap in a generation: Health equity through action on the social determinants of health. The Lancet, 372(9650), 1661–1669. https://doi.org/10.1016/S0140-6736(08)61690-6

McIntyre, L., Shyleyko, R., Nicholson, C., Beanlands, H., & McLaren, L. (2013). Perceptions of the social determinants of health by two groups more and less affiliated with public health in Canada. BMC Research Notes, 6(247), 1–9. https://doi.org/10.1186/1756-0500-6-247

McKinlay, J. (1979). A case for refocusing upstream: The political economy of illness. In E. G. Jaco (Ed.), Patients, physicians, and illness (3rd ed., pp. 9–25). Free Press.

McMahon, N. E. (in press). Framing action to reduce health inequalities: What is argued for through use of the ‘upstream-downstream’ metaphor? Journal of Public Health.

Mead, R., Thurston, M., & Bloyce, D. (2020). From public issues to personal troubles: Individualising social inequalities in health within local public health partnerships. Critical Public Health, 1–13. https://doi.org/10.1080/09581596.2020.1763916

Orton, L. C., Lloyd-Williams, F., Taylor-Robinson, D. C., Moonan, M., O’Flaherty, M., & Capewell, S. (2011). Prioritising public health: A qualitative study of decision making to reduce health inequalities. BMC Public Health, 11(821), 1–9. https://doi.org/10.1186/1471-2458-11-821
Raphael, D. (2011). A discourse analysis of the social determinants of health. Critical Public Health, 21(2), 221–236. https://doi.org/10.1080/09581596.2010.485606
Semino, E. (2008). Metaphor in discourse. Cambridge University Press.
Sniehotta, F. F., Araújo-Soares, V., Brown, J., Kelly, M. P., Michie, S., & West, R. (2017). Complex systems and individual-level approaches to population health: A false dichotomy? The Lancet Public Health, 2(9), e396–e397. https://doi.org/10.1016/S2468-2667(17)30167-6
Spiegel, J. M., Breilh, J., & Yassi, A. (2015). Why language matters: Insights and challenges in applying a social determination of health approach in a North-South collaborative research program. Globalization and Health, 11(9), 1–17. https://doi.org/10.1186/s12992-015-0091-2
Thibodeau, P. H., & Boroditsky, L. (2011). Metaphors we think with: The role of metaphor in reasoning. PloS One, 6(2), e16782. https://doi.org/10.1371/journal.pone.0016782
Willig, C. (2013). Foucauldian discourse analysis. In Introducing qualitative research in psychology (3rd ed., pp. 378–420). McGraw-Hill Education.