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Ontological foundations of urban health policy ideas: the case of planning Sydney's Western Parkland City

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ABSTRACT

This case study examines the ontological backgrounds of urban health policy ideas in planning the Western Parkland City, a large-scale regional development project in Sydney, Australia. Using an empirical approach, the study identifies seven key urban health policy ideas and analyses the nature of these ideas using urban health ontological frameworks. The dominant ontological paradigms appear as the medical-industrial and urban health science paradigms with strong alignment with the sustainable urban development and healthy urban planning research traditions. Additionally, the dominant ideas adopt a view of systems that is complicated more than complex, favour change driven by structure rather than agency, and involve perspectives that transcend across multiple scales. These findings highlight the importance of recognising the influence of paradigms in shaping policies and the need for transdisciplinary approach to policymaking.

Introduction

In recent years, health has been recognised as a global priority for urban development (United Nations General Assembly 2016, World Health Organization 2016) and is a fundamental aspect of the Sustainable Development Goals (United Nations 2015). There is an abundance of compelling evidence that health is influenced by urban spatial structures (Ewing and Cervero 2010, McCormack and Shiell 2011, Rydin *et al.* 2012, Giles-Corti *et al.* 2016, Stevenson *et al.* 2016, World Health Organization, & UN-Habitat 2016) and as a result, many planning guidelines have been developed (The City of New York 2010, NSW Ministry of Health 2020, Pineo 2020, UN-HABITAT and World Health Organization 2020). Despite this global recognition of the relationship between urban planning and health, the goal of improving health remains a low priority in urban planning policymaking in most contexts.

To address the gap between scientific evidence and the lack of policy implementation, one possible solution is to analyse the urban planning policymaking process from a political science perspective (de Leeuw *et al.* 2021). Urban planning decisions are not based solely on the scientific evidence that confirms the strength of causal relationships or on compliance to planning guidelines. In fact, political science scholars argue that evidence alone is insufficient for transformative change – it is the evidence-informed ideas, not the evidence itself, that travel between research and policy (Smith 2014, Cairney and Oliver 2017, Cairney *et al.* 2023). Ideas are depicted as values or causal beliefs, similar to the concept of policy paradigms; used as policy frames to define policy problems; and as policy proposals for responding to policy problems (Smith 2014).

The focus on ideas in policymaking is the key principle in the 'ideational approach' to policymaking which is important in addressing a complex issue such as urban health. Complex issues involve a broad range of policy actors representing different levels of government and sectors, diverse disciplinary fields, and the community. Such diversity of policy actors naturally leads to a wide range of (possibly competing or contradictory) policy ideas in policymaking. Policy actors rarely question the underlying assumptions about their own policy ideas nor recognise that these views may not be shared with others. Without engaging in such reflexivity, this lack of awareness can lead to reinforcement of implicit biases (Hall 1993, Béland and Cox 2016, Jenkins-Smith *et al.* 2018). This particularly focused worldview results in missed

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opportunities to develop effective policies and the generation of incoherent policy ideas, lack of collaboration, confusion, and mistrust. To resolve such issues, one strategy to improve effective policymaking is to analyse some existing urban policy ideas and try to understand their underlying differences and their expressions in policy actors' beliefs and positions.

Recognition of the ontological differences among urban health policy ideas is essential in developing transdisciplinary collaborations to urban planning policymaking. Transdisciplinary approaches require actors to collaborate in areas outside their own disciplines' or sectors' traditional areas of interest; areas that may be grounded in different ontological understandings (Ramadier 2004, Lawrence 2015). Thus, unlike interdisciplinary approaches where disciplines seek collaborations in the areas of overlap between their ontological positions, in transdisciplinary approaches participants need to be open to new methodologies and frameworks and be willing to learn from other participants even if the views are outside of their own ontological understandings.

Therefore, the aim of this study is to examine the ontological perspectives of the urban health policy ideas to provide evidence for adopting transdisciplinary approaches to urban policymaking. We take a case study approach to examine such urban health policy ideas that appear in the planning of the Western Parkland City in the Greater Sydney metropolitan region of Australia (www.greatercities.au). This currently operational strategic regional plan involves multiple institutional and personal stakeholders across various sectors and levels of government, and its formal policy discourse includes references to health-related goals such as sustainability and liveability. The selection of this large-scale urban planning case study provides an excellent opportunity to explore a broad spectrum of urban health policy ideas. Additionally, the involvement of the co-authors in prior research in studying healthy urban planning in this region (Harris *et al.* 2020, 2022) provided valuable insights that enhanced the feasibility of collecting data for this study. The findings of this case study highlight the co-existence of multiple urban health policy ideas and the diversity of their ontological perspectives.

Methods

Case study methodology

We adopted a case study methodology to test two conceptual frameworks in identifying the ontological perspectives of urban health policy ideas (Flyvbjerg 2006). Case study methodology involves conducting an in-depth examination of a specific case within a particular real-world context, allowing for a thorough understanding of its complexities (Yin 2017). We utilised interviews and documents as data sources, applied thematic analysis and adopted abductive reasoning to explain the emerging observations. The research question and the methods were guided by the critical realist approach (Danermark 2019, Melia 2020), with the overall aim to generate insights that would facilitate the development of effective transdisciplinary collaborations. The critical realist perspective allows us to better understand the underlying mechanisms and structures that shape urban health policymaking that are not readily apparent or measurable. This approach integrates empirical observations with theoretical reasoning and critical reflection.

Collecting data

The data for this case study were collected from two main sources, in-depth interviews with key informants ($n = 12$); and key policy documents ($n = 5$). The recruitment of interviewees was guided by snowball sampling within the authors' practice and research networks in the region. Informants were individuals associated with organisations that have an institutional, formal, or functional interest in the development of the Western Parkland City. Organisations that have an institutional interest refer to those organisations that have a statutory role in the planning process, functional interests refer to participants that are officially involved in the planning process, and functional interest include those organisations that represent various urban health interests of the region but not involved at the core of the planning process.

The interviews were conducted between March and November 2022. Interviewees represented the following: state level planning agency ($n = 4$), local council ($n = 4$), network of local councils ($n = 2$), local level health agency ($n = 1$), and community organisation ($n = 1$). Initial interviewees were identified using purposive sampling and subsequent interviewees were recruited through snowballing strategies. We stopped recruitment when the interviewees ceased to provide new potential interviewees. We confirmed during analysis that data saturation was also reached. JK conducted the interviews online via MS Teams using a list of semi-structured approach focusing on open-ended questions (Supplement 1). The questions were structured around the conceptual (e.g. key urban health issues), theoretical (e.g. underlying causes and explanations), methodological (e.g. preferred knowledge and research) and instrumental (e.g. policy solutions and action) dimensions on how health is or should be being considered in the planning of the Western Parkland City. We also asked about the participants' knowledge, opinion and experience on the planning process. The

interviews were conducted between March and November 2022 and the sessions ranged between 45 and 90 minutes. With the interviewees' consent, the interview sessions were recorded and transcribed. Human research ethics approval for conducting the interviews was obtained (UNSW/HC210524).

The interviewees referred to five key policy documents which were reviewed for triangulation and additional details rather than as primary sources for data collection. We prioritised data from interviews as they provide a deeper understanding of the context. Moreover, the policy documents are not health-specific, and they represent the comprehensive plan for the region. Therefore, on their own, it is difficult to identify which aspects of the policies were considered as health promoting. The five policy documents were the: Western Sydney City Deal (Australian Government & NSW Government 2018); Western Sydney District Plan (Greater Sydney Commission 2018b); A Metropolis of Three Cities (Greater Sydney Commission 2018a); Western Parkland City Blueprint (Western Parkland City Authority 2022a); and Economic Development Roadmap (Western Parkland City Authority 2022b).

Identifying urban health policy ideas

We developed the operational definition of an *urban health policy idea* based on the concept of policy actors' beliefs about the description of the world, causal relationships and justified actions, which are expressed as policy problems, goals or solutions in the policy process (Béland and Cox 2010, Mehta 2010). We define an urban health policy idea as a coherent set of ideas expressed by policy actors on the policy problem, policy goal, and policy solutions to foster health through urban planning policies.

The urban health policy ideas were identified through a thematic analysis of the interviews. The interview transcripts were first coded to capture the urban health policy problems, policy goals and policy solutions expressed regarding the planning and development of the Western Parkland City. Iteratively, while coding additional interviews, the emerging codes were grouped and categorised into a coherent narrative of urban health policy ideas on the policy goal, defining the problem, the understanding of the underlying causal mechanisms and effective interventions, the types of methods and data to gain more information on the problem and drivers of change. JK conducted the thematic analysis and the recurring patterns of urban health policy ideas that emerged were discussed and confirmed by discussions amongst all the authors. The health policy ideas emerging from the thematic analysis of the interviews were confirmed and examined by policy objectives and strategies presented in the selected five policy documents.

Examining the policy ideas against urban health ontological frameworks

We examined the urban health policy ideas by applying two pre-existing ontological frameworks, namely the four urban health paradigms (Kim *et al.* 2022) and the five urban health research traditions (Kim *et al.* 2023). These frameworks serve as conceptual models that elucidate diverse perspectives regarding the relationship between the urban environment and human health. By utilising these frameworks as analytical tools, we were able to compare and contrast the policy ideas and draw conclusions on establishing transdisciplinary collaborations.

Urban health ontological frameworks

The first framework, four urban health paradigms, was developed using the conceptual, theoretical, methodological and instrumental dimensions that constitute a paradigm to distinguish four different approaches to urban health (Kim *et al.* 2022). The four paradigms differ in their understanding of which urban health issue is important, the nature of the issue, its underlying causes, and its appropriate solutions, and the paradigm's preferred knowledge and research methods. A detailed version of how these views compare can be found in Supplement 2 of this publication. In summary:

- The *medical-industrial paradigm* takes an economic-driven approach to promoting urban growth and liveability;
- The *urban health science paradigm* utilises epidemiological approaches to empirically analyse the causal associations between the urban environment and health;
- The *healthy built environment paradigm* calls for a re-integration of health as a main goal for urban planning; and
- The *health social movement paradigm* supports a value-based, community-driven approach to systems change.

The second framework we used was based on the five distinct urban health research traditions that was identified through a meta-narrative review of the urban health scholarship (Kim *et al.* 2023). Each research tradition has a different conceptual and thematic perspective to studying urban health. Again, a detailed version of how these views compare can be found in Supplement 2 of this publication. In summary:

- The *sustainable urban development* research tradition studies urban health with a lens that urban development policies focus on the balance of environmental, social and economic goals;

- The *urban ecosystem services* research tradition investigates how urban green and blue landscape patterns generate health benefits;
- The *urban resilience* research tradition focuses on the ability of the urban system to absorb disruptions and maintain desired functions;
- The *healthy urban planning* research tradition examines the attributes of the urban environment that are determinants of health; and
- The *urban green spaces* research tradition studies the physical, mental and social health benefits of urban green spaces.

Furthermore, we also incorporated the three dimensions employed by Kim *et al.* (2023) to further distinguish the characteristics of the urban health research traditions, adding another component to our analysis. These three dimensions are: the perspective of the system (complicated or complex), the locus of change (structure or agency) and the scale of at which the urban health issues are discussed (individual, city, global analytical units and levels).

- Adopting a complex systems perspective entails acknowledging emergent features, non-linearities, feedback loops, hierarchy, and adaptability inherent in systems. This perspective suggests that comprehending or fully managing systems, as well as predicting outcomes, is not entirely attainable. Conversely, a complicated system perspective involves identifying the constituents of the urban system and their interconnections to pinpoint precise intervention points.
- In the domain of urban health, the interplay between structure and agency manifests in two primary manners, the spatial structures of urban areas influence the day-to-day behaviours of urban residents and their well-being and the social structures and actors within urban planning affect decisions that shape these spatial structures. An approach concentrated on urban structure directs attention to urban form or the planning system as the locus for initiating change. Conversely, an agency-focused approach underscores the pivotal role of individuals influencing and reshaping the urban structure.
- The scope of urban health research encompasses a wide range of scales, spanning from individual health behaviours, street-level influences, city and regional environments to the broader impact of global and international factors.

Analysing alignment with ontological perspectives

These categories, along with their descriptions, exemplify the Weberian ideal types, portraying the idealised version of each perspective, rather than a representation of an individual study or a case (Hekman 1983). These frameworks operate as a heuristic tool to effectively contrast and compare the different categories. In reality, however, there are overlaps across categories, and individual research and practice cases may not neatly fit under one exclusive category. Moreover, the categories represented in these two frameworks are not exhaustive of the entire spectrum of urban health approaches. Developed through a systematic approach and being overarching in nature, these categorisations do not necessarily offer in-depth explorations of how they address critical concerns such as the issue of race, poverty, equity and justice. Nevertheless, the value of these frameworks lies in their capacity to serve as an efficient and effective tool to capture the similarities and differences in the presented urban health policy ideas.

Using the descriptions of the urban health ontological perspectives, we conducted a comparative analysis between the urban health policy ideas that were mentioned by the interviewees and each perspective. Following the initial analysis, which yielded the prominent urban health policy ideas and their explanations, JK constructed a matrix for cross-referencing to ascertain alignment between each policy idea and the types of urban health ontological perspectives. Alignment was established when there was a shared view in their conceptual, theoretical, methodological and instrumental approach to the policy idea. That is, we examined how the urban health problem is defined, the nature of the root causes and what are recommended as effective solutions to address the problem.

For example, consider the case of 'Creating economic and education opportunities'. This policy idea frames the urban health problem as lack of resources in the urban area and proposes the creation of local opportunities for jobs and education as an effective solution. Within this key idea, interviewees conveyed perspectives on the nature of the urban system, defining health, root causes and pathways and other information that collectively compose a coherent narrative of this policy idea. Interviewees responses under this theme were juxtaposed against each urban health ontological perspective and alignment was ascertained when shared understandings were discernible.

The outcomes of the cross-tabulation were further challenged and questioned in discussion among JK, EdL, BHR and PS. Ultimately, consensus was reach among all co-authors on the final conclusions. While certain ideas occasionally strongly aligned with specific perspectives, the tendency was not quantified in the form of weights. Our assessment solely indicated whether commonalities were observable between the policy idea and the ontological perspective.

Findings

We begin with an introduction to the Western Parkland City. We then provide an explanation of the characteristics of the seven prominent urban health policy ideas extracted from the interview data. Lastly, we present an examination of how these policy ideas align with the two ontological frameworks of urban health.

Overview of the Western Parkland City

The planning of the Western Parkland City is a regional-scale urban development that will build a third city centre in the Greater Sydney metropolitan area. The region includes eight local councils and two local health districts (Figure 1). The vision is to create a city where most residents live within 30 minutes of their jobs, education, health and social services, and other amenities (Greater Sydney Commission 2018a). With the population of the region expected to grow from 1 million in 2016 to 1.5 million in 2036, the local, state and national levels of government are investing over $20 billion to create jobs, housing, road and rail networks, education and training opportunities, open green spaces and other infrastructure and services. The Western Sydney International Airport, which will begin its operations in 2026, and its surrounding 'aerotropolis' is one of the major infrastructure projects that is expected to serve as a catalyst for economic growth in the region.

The development of the Western Parkland City is underpinned by the Western Sydney City Deal (Australian Government, & NSW Government 2018), a 20-year partnership agreement between the federal, state and eight local governments in the region. At the Greater Sydney metropolitan level, the Greater Sydney Commission was established in 2015 to coordinate the Greater Sydney metropolitan strategic planning. This strategic plan is guided by four principles: Infrastructure, Sustainability, Productivity, and Liveability (Greater Sydney Commission 2018a, 2018b). At the Western Parkland City level, the Western Parkland City Authority, a state-level planning agency, was established to deliver the infrastructure, coordinate plans and attract investment to the Western Parkland City. The Western Parkland City Authority states its vision as delivering 'Australia's greenest, most connected and technologically advanced city while maintaining our unique environment, culture and diversity' (Western Parkland City Authority 2022a, 2022b).

In the planning and execution of the Western Parkland City, involving the community is a crucial decision. This involves seeking input from local governments, community groups, and residents at various stages of the process (Greater Sydney Commission 2018a, Western Parkland City

Figure 1. Map of the Western Parkland City. Source: Western Parkland City Authority (WPCA)

Authority 2022a). The community is given the opportunity to provide feedback on draft plans, and the actual implementation is carried out in partnership with the community. However, there may be differences in how much the community feels included compared to the viewpoints held by policymakers (Hirono *et al.* 2017).

The economic, cultural, and social development of Greater Sydney has historically focused on the central business district and the Eastern Suburbs, hence the colloquial reference to the Western Parkland City region as the 'fringe' of Sydney. Currently, the Western Parkland City is peri-urban region that relies heavily on personal automobility and freight trucking, rather than dense public transport network. The region is home to a demographically diverse population, with a significant proportion of residents from culturally and linguistically diverse backgrounds and is home to a large population of migrants and refugees. According to the 2021 Australian Census, close to 40% of the residents speak a language that is not English in their homes, which is similar to the national average (id (informed decisions) n.d.).

There also exists a significant variation in relative socio-economic disadvantage among the eight local councils included in the Western Parkland City (id (informed decisions) n.d.). Notably, four of these local councils are above the national average, whereas the remaining four lag behind. In particular, three councils are in the lowest quintile, with one of them ranking as one of the most disadvantaged local councils in the entire country.

The lack of quality jobs and education opportunities, poor housing and public infrastructure and other harmful social determinants of health has led to health problems and inequities (South Western Sydney Local Health District, & South Western Sydney Primary Health Network 2019). Additionally, the natural geography makes the region particularly vulnerable to climate hazards such as extreme heat events, flooding, bushfires and droughts which have become more frequent and intense due to climate change (The Australia Institute 2022). The loss of agricultural land and climate change is challenging food security in the region.

Urban health policy ideas in the planning of the Western Parkland City

We identified seven urban health policy ideas in the interviewees' responses. Each label was chosen to reflect the main components and strategies formally expressed in policy documents and reflected by the interviewees. Inevitably, there are overlaps between the ideas as the policy goals and strategies are interconnected. Nevertheless, each policy idea represents a set of views expressed by the interviewees that are cohesive in the problem definition, policy goals and solutions.

Creating economic and education opportunities

Interviewees share beliefs and ideas that the root cause of poor health outcomes in this region is attributed to the dearth of economic and educational opportunities compared to the other regions of the Great Sydney metropolitan area. Residents of this region are forced to spend long commuting times to access employment and educational opportunities. The vision of establishing a healthy city is to create a city where residents can secure high-quality jobs and education locally. The financial benefits derived from securing these jobs, combined with shorter commutes, are expected to facilitate engagement in health-promoting activities, such as spending time with families, engaging in physical activity and participating in community-based cultural events.

For example, in one interviewee's depiction of a healthy city:

> if you have people's jobs closer to where if there's a university, if you live in Miller and there's a high-quality university in Liverpool, well, suddenly you don't have to catch a bus all the way to Parramatta or all the way down to Wollongong or all the way into the city. You can just catch a bus and to Liverpool so there's, you know you can improve how people take the journey and then you can reduce the journey by any mode.

One of the strategies to achieve this policy goal is to attract investment and businesses to the region. Several existing policies, such as the Western Parkland City Economic Development Roadmap (Western Parkland City Authority 2022b), support this policy idea. The construction of new infrastructure, such as the Western Sydney International Airport and the Advanced Manufacturing Research Facility, is viewed as a catalyst for building an economic centre for the region (Western Parkland City Authority 2022b).

Improving access to amenities and services

Interviewees also identify another goal for fostering health in the Western Parkland City: building a connected and liveable city. A main component for liveability, according to the views in this policy idea, is improving access to amenities and services, which encompasses not only augmenting the quantity and quality of social and community infrastructure but also improving access through better connectivity (Greater Sydney Commission 2018a, Western Parkland City Authority 2022a). The 30-minute city vision to improve connectivity and accessibility aligns with this urban health policy idea.

This policy ideas supports '*the day-to-day function of what do people need to be able to get places safely and*

easily, what services and amenities do they need access to close by, how are they going to get there'. Achieving this goal necessitates urban planning based on high-density living and robust transportation networks. Amenities and services refer to a range of both public and private infrastructure and resources such as parks, gardens, sports fields, plazas, libraries, museum, galleries, shopping centres and more. Additionally, it is believed that such a liveable city will attract investors, businesses and skilled workers as investors '*want to also make sure that they have the amenity around them to locate in those locations'.*

Investing in health infrastructure

When asked about initiatives that address health in urban planning, several interviewees swiftly pointed out the establishment of health and education precincts as a major urban health policy idea. This idea entails constructing state-of-the-art hospital infrastructure and services and promoting cutting-edge medical research centres as crucial activities that intersect with healthy urban planning. The Liverpool Innovation District, which encompasses upgrades to Liverpool Hospital and concentrating medical research facilities, serves as an example of this policy idea (Western Parkland City Authority 2022a, 2022b). This is captured well in a statement from one of the interviewees that '*leveraging the government unprecedented level of investment in health infrastructure would bring greater not just social but also economic benefits for the broader community'.*

Although many of the interviewees acknowledged this idea to be one of the prominent urban health policy ideas in the implementation of the Western Parkland City such as in Objective number 21 in the Regional Plan (Greater Sydney Commission 2018a), a few explicitly stated that it does not align with their vision of a healthy city. They felt that there is no direct indication of how upgrading hospitals will contribute to the health and wellbeing of the community, except that the investment will act as a catalyst for economic development in the region and will offer training opportunities and jobs for Western Parkland City residents. In the views of interviewees' who lean towards the social determinant of health, '*it was really satisfying to see that their idea of health wasn't health infrastructure or health services'.*

Creating and designing healthy spaces

This policy idea places emphasis on providing public areas like parks, open spaces and streets, with a focus on designing them in a way that promotes health and social benefits. These public spaces serve crucial social functions and allow residents to engage in health-promoting activities like walking, cycling, sports and cultural events. This view is encapsulated in one interviewee's view on creating streets and spaces that have

'*things to see and do, places to rest. So, it kind of gives the street animation. I mean, there's people there, there's social connection. Everyone's feeling welcome. It's easy to cross the street. And those things attached to so many different health issue and outcomes'.*

Therefore, it is important that they are an integral part of urban infrastructure planning, and designed in a way that caters to the needs of the community of the Western Parkland City, ideally with their involvement. However, the interviewees did not specify the nature of the needs of the community as they believe these needs are addressed through engagement of the community in their contextual settings. Several initiatives, such as the use of the Healthy Streets Framework (www.healthystreets.com) and creation of cycling networks are initiatives that are aligned with this policy idea.

Conserving the natural environment

When asked how health is being considered in the Western Parkland City, interviewees pointed out the distinction between human health and the health of the environment. One interviewees state that '*in our plan, there are these two different ways we talk about health. We talk about human health and then we talk about natural health, so, you know, the health of waterways, the health of biodiversity'.*

The Western Parkland City, which spans 800,000 hectares, features protected natural areas that encompass world heritage and nature reserves that comprise 63% of the total area. This region boasts significant biodiversity values and serves as the home of Greater Sydney's drinking water catchment. Adopting an integrated 'blue-green grid' approach can accomplish several objectives, such as safeguarding the natural environment and its ecosystems while simultaneously providing recreational opportunities for residents in the form of parks and waterways (Greater Sydney Commission 2018b, Western Parkland City Authority 2022a). The interviewees also pointed out that the health of the environment contributes directly to human health by providing cooling effects and reducing air pollution, represented in the statement that '*increased risk of all the health conditions that can come from being in a hot environment without access to cool water, access to cool air and all those things . . . the reason we're really interested in it is because of human health, human wellbeing'.* Under this urban health policy idea, synergies between the natural environment and human health were mentioned while the negative effects were represented in the following policy idea on building resilience to climate hazards.

Building resilience to climate hazards

Interviewees emphasised '*the need to ensure resilience to natural hazards like flooding and bushfire'* as another health-related urban planning goal. The

Western Parkland City is susceptible to severe weather events, not only due to its natural terrain, but also because of its inadequate infrastructure and the demographics of its population. The region has recently witnessed several noteworthy natural disasters, including floods, bushfires, and prolonged periods of extreme heat. Climate change prediction modelling is used to continuously monitor these risks, and policies are being developed to manage flooding and increase canopy cover in the area. These policy objectives are reflected in the planning of the Western Parkland City in the Regional Land Use Planning Framework for the Hawkesbury-Nepean Valley floodplain (Western Parkland City Authority 2022a), the Turn Down the Heat project (Western Sydney Regional Organisation of Councils 2018) and as planning priorities in the Western District Plan (Greater Sydney Commission 2018b).

Promoting healthy food environments

Food security has been identified as a critical urban health issue in the region by policy actors at the local level, yet the interviewees remarked this concern is not given sufficient emphasis in regional planning. The loss of agricultural land is cited by local actors as a leading cause of poor food security in the area, with limited access to healthy and fresh food being linked to negative health outcomes such as obesity and diabetes. The Western District Plan aims to promote local access to healthy fresh food and support local fresh food production (Greater Sydney Commission 2018b). Local councils are required to develop strategies to achieve this objective in their local plans. However, this goal has been difficult to achieve and has even been at risk of being omitted from the plans as councils struggle to meet its targets. One interviewee recalled,

> We want people to have access to healthy, fresh foods, to supermarkets, to fruit, vegetables, fresh water, drinking water. It was just the very basics. And the councils were struggling with it. The planners at the state level were going, 'I don't know what we put in here. It's too hard. Let's just get rid of it.'

Nevertheless, this policy idea is featured as a critical policy goal in the strategic plan of the Western Sydney Health Alliance (Western Sydney Health Alliance 2022), a partnership between local councils, local health districts and primary health networks in the region.

Summary of the key urban health policy ideas in the Western Parkland City

A summary of the key urban health policy ideas is presented in Table 1.

Ontological perspectives of the urban health policy ideas

The seven identified urban health policy ideas that appear in the Western Parkland City planning are associated with various ontological perspectives on urban health. In this section, we demonstrate how these policy ideas correspond to the four urban health paradigms and the five urban health research traditions. The variety of urban health paradigms and research traditions highlights the ontological diversity among the various urban health policy ideas, forming the foundation for transdisciplinary policymaking and research.

Alignment with the four urban health paradigms

Table 2 presents how the seven urban health policy ideas align with the four urban health paradigms (Kim et al. 2022), which are differentiated according to their conceptual, theoretical, methodological, and instrumental perspectives. While all policy ideas share some commonalities with the urban health science and healthy built environments paradigms, the 'Creating jobs and education opportunities', 'Improving access to amenities and services', and 'Investing in health infrastructure' policy ideas are predominantly associated with the medical-industrial city paradigm, which prioritises an economic and business-oriented approach to promoting healthy cities. On the other hand, the health social movement paradigm is less represented, with only 'Creating and designing healthy spaces' and 'Promoting healthy food environments' having some elements that correspond with this paradigm.

With reference to the four urban health paradigms, the urban health science and healthy built environments paradigms were seen in all seven policy ideas. The medical industrial city paradigm appeared in three of the policy ideas, while the health social movements paradigm was seen in two of the policy ideas.

Alignment with the five urban health research traditions

Table 3 displays the alignment between the urban health policy ideas and the five urban health research traditions (Kim et al. 2023). The majority of policy ideas exhibit a connection to the healthy urban planning and sustainable urban development research traditions, with healthy urban planning demonstrating a slightly more prominent presence. Interestingly, the 'Investing in health infrastructure' policy idea does not align with any of the five urban health research traditions, while the 'Conserving the natural environment' policy idea associates with elements of all five. Additionally, the 'Creating jobs and education opportunities', 'Improving access to amenities and services',

Table 1. Summary of the key urban health policy ideas in the Western Parkland City.

	Urban health policy ideas in the Western Parkland City						
	Creating jobs and education opportunities	Improving access to amenities and services	Investing in health infrastructure	Creating and designing healthy spaces	Conserving the natural environment	Managing and building resilience to impacts of climate change	Promoting healthy food environments
Summary	Attracting investment and businesses to the region.	30-minute city, improving connectivity, high density planning, jobs and services closer to home.	Building, upgrading hospitals and health services.	Investing in public spaces, healthy streets, walkability, cycle paths, urban design, shared spaces	Open spaces and parklands, green grid, protecting the environment	Dealing with urban heat, strengthening resilience against hazards (floods, fires), environmental sustainability, carbon neutral	Improving access to healthy food and food security
Link with health	Jobs and skills training opportunities, income, catalyst for economic growth of the region	Living close to home saves commute time for other 'healthy' activities (e.g. time spent with family)	Investing in the 'health' sector, improving healthcare services, advancing the healthcare industry	Social functions of public spaces, health benefits of active lifestyles, recreation	Health of the 'environment' and biodiversity influence human health	Protecting the community from hazards	Providing the community with healthier nutrition and preventing obesity
Examples of initiatives	Economic Development Roadmap, Advanced Manufacturing Research Facility	Delivering a connected City policy goal, cultural and community facilities	Liverpool Innovation Precinct, Multiversity, Objective 21, Health and Education Precincts	Objective 7, Healthy Streets Framework, Healthy Built Environment Checklist	Cumberland Plain Conservation Plan, 50-year vision for Greater Sydney's open space and parklands, Objective 27	Hawkesbury-Nepean flooding modelling, Turn down the heat plan, Net zero by 2050	Western Sydney Health Alliance Strategic Plan 2022-25

Table 2. Alignment of policy ideas with the four urban health paradigms.

	Four urban health paradigms			
Urban health policy idea	Medical-industrial city	Urban health science	Healthy built environment	Health social movements
Creating jobs and education opportunities	+	+	+	−
Improving access to amenities and services	+	+	+	−
Investing in health infrastructure	+	+	+	−
Creating and designing healthy spaces	−	+	+	+
Conserving the natural environment	−	+	+	−
Building resilience to climate hazards	−	+	+	−
Promoting healthy food environments	−	+	+	+

+ indicates alignment of views is present; − No alignment of views.

Table 3. Alignment of policy ideas with the five urban health research traditions.

	Five urban health research traditions				
Urban health policy idea	Sustainable urban development	Urban ecosystem services	Urban resilience	Healthy urban planning	Urban green spaces
Creating jobs and education opportunities	+	−	−	+	−
Improving access to amenities and services	+	−	−	+	−
Investing in health infrastructure	−	−	−	−	−
Creating and designing healthy spaces	+	+	−	+	+
Conserving the natural environment	+	+	+	+	+
Building resilience to climate hazards	+	+	+	+	−
Promoting healthy food environments	+	−	−	+	-

+ indicates alignment of views is present; − No alignment of views.

and '*Investing in health infrastructure*', policy ideas demonstrate less overlap across the five urban health research traditions compared with the other four policy ideas.

With reference to the five urban health research traditions, the sustainable urban development and healthy urban planning traditions were each seen in six of the seven policy ideas. We assessed that the

Table 4. Alignment with the outlook on systems, locus of change and scale.

	Systems		Change		Scale		
	Complicated	Complex	Structure	Agency	Individual	Community	Region
Creating jobs and education opportunities	+	–	+	–	+	+	–
Improving access to amenities and services	+	–	+	–	+	+	–
Investing in health infrastructure	+	–	+	–	–	+	+
Creating healthy public spaces	+	–	+	+	+	+	–
Conserving natural environments	+	+	+	–	–	–	+
Building resilience to climate hazards	+	–	+	+	–	+	+
Promoting healthy food environments	+	+	+	+	+	+	+

+ indicates alignment of views is present; – No alignment of views.

views of the urban ecosystem services research tradition were aligned with three of the policy ideas, and the urban resilience and urban green spaces can be found in two.

Outlook on systems, locus of change and scale of the policy ideas

Lastly, we observed a diverse range of differences in the outlook on systems as either complicated or complex, the relationship between structure and agency regarding the locus of change, and the scale at which the policy idea addresses the urban health issue. For each policy idea, there is a mix of views on each dimension (Table 4).

The seven policy ideas adopt a view of systems that is complicated more than complex, favour change driven by structure rather than agency, and involve many activities at all of the individual, community and regional scales.

Discussion

While the need to apply health political science and transdisciplinary approaches to urban health research and policymaking has been widely acknowledged, previous discussions were primarily conceptual (Lawrence and Gatzweiler 2017, de Leeuw et al. 2021, Kim et al. 2022). This study builds on those conceptual arguments by applying a health political science lens to understanding urban health policy ideas in a current major urban planning program in Sydney, Australia. We believe that the findings of our empirical examination of the ontological backgrounds of current urban health policy ideas make a novel contribution to the literature.

This case study identified seven urban health policy ideas embedded in the planning of Sydney's Western Parkland City and examined the nature of these ideas using urban health ontological frameworks. The urban health policy ideas may appear to be based on the domains of different sectors such as transportation, housing, public health, urban planning, however, they are, in fact, a blend of ontological perspectives, reflecting different paradigmatic views on the conceptualisation of the urban health issue.

One notable observation from the study is that the dominant ontological paradigms in the Western Parkland City are the medical-industrial and urban health science paradigms. Similarly, the urban health policy ideas showed strong alignment with the sustainable urban development and healthy urban planning research traditions. These prevailing ontological perspectives lean towards rather positivist and technocratic approaches, relying on science-driven evidence and economic valuation to define problems and justify action. They tend to adopt a complicated view of the urban system emphasising transformation of physical and social structures rather than mobilising agency. Consequently, there is a belief that the policy problems are informed through analysing the causal mechanisms, and in developing policy solutions, quantitative and measurable outputs are considered drivers of change. These views fundamentally contrast with ontological frameworks that perceive the urban system as dynamic entities capable of self-organisation and adaptation to internal and external change. Here, leveraging agent behaviours and the system itself are of key importance.

Although significant progress has been made in recognising urban health as a policy priority in planning the Western Parkland City, a lack of social justice and health equity values remains lacking. This disparity becomes particularly relevant in the context of this region, where interviewees mentioned disadvantage as a fundamental driver behind this large-scale regional plan. This discrepancy can be partially understood within the context of prevailing urban health ontological perspectives steering the urban health policy ideas. When policy ideas do not align with the views of the dominating paradigms, they often face rejection. The policy idea of addressing healthy food environments is an example of this observation. The interviewees mentioned this policy idea to require a health equity value-driven health social movement or a social justice approach. And despite being recognised as a long-standing priority issue in the region (Nolan et al. 2006, Lawton and Morrison 2022), this policy idea has repeatedly failed effective policy action due to misalignment between the principles underpinning this policy idea and the positivist and technocratic views of the dominant urban health paradigm. This

finding underscores the importance of recognising the influence of dominant paradigms in shaping urban health policy and the need for a more inclusive and diverse approach to policymaking.

Another key observation revolves around the prevalence of the health infrastructure policy idea in the Western Parkland City, which does not appear to align with any of the urban health research traditions. This observation can be interpreted in several ways. Firstly, it may stem from the nature of the urban health research tradition framework that was applied, which was developed through a meta-narrative review of urban health scientific literature grounded in the disciplines of planning and health. Meanwhile, the health infrastructure policy idea leans toward business-driven approach, often associated with more business-oriented disciplines. Alternatively, these views may not be extensively documented in scientific literature but rather confined to practice and policy domains. Lastly, this observation implies that in the real world, the interests of the private sector such as the construction sector, developers, landowners and health industries exert greater influence in policymaking compared to science-generated evidence. These interpretations collectively underscore the greater involvement of nonacademic actors in transdisciplinary approaches in urban health research, practice and policymaking (Black *et al.* 2019, Lawrence 2021).

Implications for transdisciplinary urban health policymaking

The finding that urban health policy ideas tackle diverse aspects of urban health and draw on different ontological perspectives highlights the complex nature of fostering health in real-world urban planning policymaking and planning. Meaningful collaborations cannot and should not be confined to intersecting areas (Ramadier 2004, Lawrence 2021), and the discovery of various ontological perspectives underpinning urban health policy ideas underscores the need for a transdisciplinary approach. Transdisciplinary approaches address 'real-world' problems, are impact-focused, integrate knowledge and problem definition, recognise the diversity of ontologies perspectives of relevant knowledge, and achieve effectiveness through contextualizing the project within science and society.

However, transdisciplinary action remain challenging to implement as they often require additional time and resources require stakeholders to be open to new ways of working and willing to learn from others (Black *et al.* 2019). Moreover, current institutional practices do not often cultivate these types of collaborations. Despite this, some efforts are being made, such as the experimentation of 'living labs' (Boonstra and Rauws 2021, Laborgne *et al.* 2021). These spaces foster transdisciplinary collaboration by bringing together researchers, policymakers and other stakeholders to address real-world problems and generate practical solutions.

This case study, while not intended to be taken as an illustration of a transdisciplinary research, demonstrates the utility of using urban health ontological frameworks in gaining a deeper understanding of the perspectives that for the foundation of urban health policy ideas. By identifying the underpinning assumptions and articulating similarities and differences, stakeholders can find opportunities for collaboration.

Limitations and directions for future research

While this study sheds light on the ontological foundations of urban health policy ideas, there are still unanswered questions that could inform transdisciplinary policymaking. The ontological frameworks utilised in this study are primarily from a public health perspective and are not exhaustive. As the urban planning literature evolves (Haghani *et al.* 2023), new perspectives may need to be added to the urban health ontological frameworks. Future research could benefit from critically reviewing and revising these frameworks to reflect emerging knowledge and paradigms. Further research could also explore the acceptance of certain policy ideas among policy actors and how and why these certain ideas gain power. Understanding these factors could be useful in influencing informing and guiding transformative policy change.

Conclusion

In conclusion, we identified seven prominent urban health policy ideas that coexist in the planning of the Western Parkland City and that the ontological perspectives we found aligned with the medical-industrial city and urban health science paradigms, sustainable urban development and healthy urban planning research traditions. The finding of this case study highlights the complexity and diversity of ontological perspectives that underpin urban health policy ideas in real-world urban planning policymaking. The findings suggest that urban health policy ideas draw upon different ontological perspectives and are not limited to the knowledge or expertise of specific sectors. This observation underscores the need for a transdisciplinary approach to policymaking, which requires collaboration across different stakeholders, disciplines, sectors, and communities. By integrating knowledge and collaborative problem definition, policymakers and planners can address the complexity and achieve effective urban and health outcomes.

The study offers a framework for fostering transdisciplinary collaborations in policymaking and emphasises the importance of recognising the influence of

ontological perspectives and paradigms in shaping urban health policy. The empirical evidence of the ontological backgrounds of urban health policy ideas provides valuable insights for policymakers seeking to promote health through urban planning. Ultimately, this research highlights the need for coherent transdisciplinary problem definition, goal setting, and solution identification and implementation to ensure transformative actions that promote health in urban areas.

Disclosure statement

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

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