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Urban Planning (ISSN: 2183–7635)
2022, Volume 7, Issue 4, Pages 42–60
https://doi.org/10.17645/up.v7i4.5829

Article

Putting Health at the Heart of Local Planning Through an Integrated Municipal Health Strategy

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Submitted: 23 May 2022 | Accepted: 30 August 2022 | Published: 27 October 2022

Abstract
As a cross-sectoral issue, the promotion of health needs to be addressed across all policies. In Portugal, as more competencies are being transferred to local governments, the integration of health considerations into municipal plans remains a challenge and guidance on how to develop an integrated municipal health strategy is absent. The aim of this study is to describe the conceptual and methodological approach that informed the development of an integrated and multisectoral municipal health strategy in the City of Coimbra. Its design followed a population health approach with a geographic lens, looking at how the population's health outcomes and health determinants were geographically distributed across the municipality, as well as the extent to which policies from multiple sectors can address them. The planning cycle followed an iterative workflow of five actions: assessing, prioritizing, planning, implementing, and monitoring. Following a participatory planning approach, several participatory processes were conducted involving local stakeholders and citizens (e.g., population-based surveys, workshops, Delphi, collaborative sessions) to identify problems, establish priorities, and define measures and actions. The strategic framework for action integrates 94 actions across multisectoral domains of municipal intervention: sustainable mobility and public places, safe and adequate housing, accessible healthcare, social cohesion and participation, education and health literacy, and intersectoral and collaborative leadership. Findings shed light on important aspects that can inform other municipal strategies, such as the adoption of a place-based approach, focused on geographic inequalities, health determinants and stakeholder participation, and the application of a health in all policies framework.

Keywords
Coimbra; health determinants; health in all policies; local government; participatory governance; place-based approach; stakeholder involvement

Issue
This article is part of the issue "Healthy Cities: Effective Urban Planning Approaches to a Changing World" edited by Elmira Jamei (Victoria University), Simona Azzali (Prince Sultan University), Hendrik Tieben (The Chinese University of Hong Kong), and K Thirumaran (James Cook University, Singapore).

1. Introduction

The important link between how cities are planned and the health of the population that lives in them is convincingly and extensively recognized in the literature (Corburn, 2015; Galea et al., 2019; Giles-Corti et al., 2016; Grant et al., 2017; Pineo, Zimmerman, & Davies, 2019; Santana, 2007; Santana et al., 2009; Tsouros, 2013; Vlahov et al., 2007), and by the United Nations and the World Health Organization (WHO; UN-HABITAT & WHO, 2020; WHO, 2012; WHO & UN-Habitat, 2010). It is easy to understand how cities influence health: "Urban environments shape what we do, how we do it, what we consume, when and what we play, and generally how we behave" (Galea et al., 2019, p. 15). Many of the current main threats to public health and leading causes of

mortality and disability (e.g., non-communicable diseases such as diabetes, cancer, cardiovascular disease, chronic respiratory disease, and depression) are widely considered "preventable" by modifiable risk factors, either behavioral (e.g., unhealthy eating, sedentary lifestyle, lack of physical activity; see Giles-Corti et al., 2016) or linked to urban environmental exposures (e.g., air pollution, noise, ambient temperature, urban residential surroundings; see Rojas-Rueda et al., 2021) which, in turn, are influenced by urban planning policies and actions. An increasing amount of scientific evidence underlines the urgent need to address urban hazards such as air pollution, noise, heat, and lack of green spaces, as they are associated with adverse health effects (Khomenko et al., 2021; Mueller et al., 2017; Nieuwenhuijsen, 2016; Richardson et al., 2013). Studies conducted in the city of Barcelona estimated that 20% of premature mortality would be avoidable by changes in urban and transport planning policies, for example by the promotion of active mobility, improvements to the public transport system, establishment of limits on motorized traffic, provision of green infrastructure, increase of urban vegetation, and improvements to building insulation (Mueller et al., 2017, 2020). There are many other examples of urban planning interventions that not only mitigate the impact of hazards but can also work as public health tools for improving overall health; these include changes in different domains such as land use, transport, mobility, housing, and public spaces (Giles-Corti et al., 2022).

Urban planning and public health, despite having common historical origins and the shared goals of preventing diseases and improving the overall well-being of the population, have evolved in separate and uncoordinated ways (Corburn, 2013). Health considerations are not always integrated into urban plans, and there is a general lack of collaboration between planning and health practitioners, which can undermine the effectiveness of interventions. The importance of bringing the public health and urban planning sectors together was recently deemed crucial by UN-Habitat and WHO (2020) with the release of a sourcebook to guide practitioners in integrating evidence-based health information into urban plans (e.g., analytical frameworks, data, and tools). Both sectors benefit from a more integrated and collaborative approach, with the translation and application of respective knowledge, data, and tools into policy and practice, helping to understand the health impacts of proposed plans (Northridge & Sclar, 2003).

Considering the complexity inherent to the study of human health, there has been an increased interest in applying ecological models to health promotion which consider the broad range of factors that influence health at multiple levels and help inform our understanding of how urban environments and urban planning influence health (Galea et al., 2019; Vlahov et al., 2007). At the core of these models is the assumption that health "behavior has multiple levels of influences, often including intrapersonal (biological, psychological), interpersonal (social, cultural), organizational, community, physical environmental, and policy" (Sallis et al., 2008, p. 466) and that "behavior change is expected to be maximized when environments and policies support healthful choices" (Sallis et al., 2008, p. 466). These levels integrate factors that are broadly formulated as determinants of health and include the person's individual characteristics and behaviors, the social and economic conditions, the physical and built environment, and local resources (Barton & Grant, 2006; Dahlgren & Whitehead, 1991; Marmot, 2005). As comprehensive and multilevel frameworks, these are useful for (a) understanding the multiple and interacting factors influencing health, and thereby (b) guiding the development of more comprehensive public health interventions and more integrated and multisectoral urban plans aiming to improve conditions in health-promoting domains such as housing, employment, education, quality of urban physical environment, social support, mobility, and social services (Santana et al., 2020).

The Covid-19 pandemic has shed light on existing social and place-based health inequities between and within cities bringing health equity to the forefront of public discussion (Bambra et al., 2020). Research indicates that healthful amenities are inequitably distributed across places and this, in turn, drives disparities in short and long-term health, thus producing inequities (Santana et al., 2017a; WHO & UN-Habitat, 2010). WHO (2018, para. 4) defines health inequities as "differences in the health status or in the distribution of health resources between different population groups, arising from the social conditions in which people are born, grow, live, work and age." These are considered unjust, avoidable, and can be reduced by a broad range of policies. Urban planning plays a key role in ensuring that everyone has fair access to resources and opportunities to be healthy, by addressing the social, economic, built, and physical determinants of health (Giles-Corti et al., 2022; UN-Habitat, 2021). However, for most local governments, integrating public health evidence into urban plans remains a challenge and cooperation between health, environmental, and urban planning is often absent. There is a general lack of health-enhancing city planning policies consistent with the rhetoric of promoting healthier environments. In this context, integrated approaches to planning, which place health at their core, are considered more effective because they help to conceptualize health disparities at multiple levels and inform the development of multilevel and multisectoral interventions (Lowe et al., 2022). One example is the City of Utrecht which has been developing a health and equity in all policies approach for several years, supported and institutionalized through strong political leadership and inter-disciplinary teams at both the neighborhood- and city-level for policy development and implementation (Weber, 2019).

Governance is an important factor influencing urban health (WHO Regional Office for Europe, 2019a). There are multiple levels of government, numerous sectors,

and many stakeholders involved in the direct pursuit of health and well-being or influencing it indirectly. Cities and local governments are, therefore, in a prime position to provide leadership on public health, activating partnerships and intersectoral collaborations (Tsouros, 2013; WHO Western Pacific Regional Office, 2015). Given the complexity inherent to health being considered a contemporary societal issue and urban challenge, "experimental" governance is more needed than ever to recast the role of local governments from a hierarchical, vertical, sectorized structure with a silo orientation to a more horizontal, cross-sectoral, and collaborative structure with distributed responsibilities (Eneqvist & Karvonen, 2021; Giles-Corti et al., 2022). In a recent study, Giles-Corti et al. (2022) urged city governments to transform urban governance schemes, strengthen policy frameworks that are integrated across sectors, adopt evidence-informed policies with spatial knowledge, apply participatory planning, and make decision-making accountable, by conducting partnerships with universities and involving all concerned parties, from stakeholders to citizens.

Since its creation in 1985, when the WHO proposed a health promotion scheme to be known as the Healthy Cities Project, the European Healthy Cities Network has been working directly with municipal governments to develop and implement intersectoral strategies for health development at the local level. At its core, is the intention to apply the principles of "health-for-all" through local action and by putting health on the agenda of local government (Ashton et al., 1986; de Leeuw & Simos, 2017). This intention goes hand in hand with the health in all policies (HiAP) framework for public policy, a collaborative approach that integrates and articulates health considerations into policymaking across sectors to improve health (WHO, 2014; WHO & Government of South Australia, 2010). However, a recent review on the utilization of the HiAP approach in local government revealed a gap in evidence regarding the implementation, adoption, and evaluation in municipal settings (Van Vliet-Brown et al., 2018). One potential mechanism to overcome these challenges is through the implementation of a municipal coordinating body for HiAP that would be responsible for working horizontally across city departments, including traditionally non-health departments (e.g., transportation) and across levels of government (i.e., regional, national; Amri, 2022). A city health development plan has been a requirement for member cities of the WHO European Healthy Cities Network since 1998 (Phase III). Following WHO guidelines, it should (a) contain the city's vision, values, and strategy, translated into action through operational planning and (b) be based on the contribution of the different sectors and stakeholders whose policies have an influence on health. One key aspect of this type of city health development plan is the increased emphasis on the social, economic, and environmental determinants of health, going beyond traditional health plans dealing mainly with the control of risk factors and the promotion of healthy lifestyles (WHO Centre for Urban Health, 2001).

1.1. The Portuguese Context of Municipal Health Planning

According to Simões et al. (2017), in the latest health system review, the role of Portuguese local governments in health is ill-defined and, in statutory terms, rather marginal. Despite some partnerships in health promotion and disease prevention (e.g., child oral health, environmental health, and healthy behaviors), where municipalities are involved with local/regional health administrations, there is still a lot of room for improvement. One barrier highlighted is that decisions in domains such as urban planning or transport are not carried out in collaboration with the health sector. This is due to a lack of intersectoral structures or bodies. Also, health impact assessments have not been institutionalized in Portugal, nor have specific guidelines (Loureiro, 2022; Simões et al., 2017). At the municipal level, despite stated policy ambitions to create healthy and sustainable cities, the integration of health considerations into urban plans is lacking, and few municipalities have explicit strategies or city health plans to achieve such aspirations. In a study conducted with local stakeholders in Lisbon exploring the challenges and opportunities posed to more effective intersectoral action for health at the local level, the following reasons were identified: (a) the policymaker's narrowed understanding of health and its place-based determinants, (b) the limited nature of the formal competencies and statutory responsibilities of municipalities for health promotion, (c) limitations in financing and competing priorities regarding the allocation of resources, (d) lack of formal structures and mechanisms for local health planning, and (e) the siloed nature of municipal governance (Freitas et al., 2021).

The Portuguese Network of Healthy Municipalities, formally established in 1997 and part of the WHO's Healthy Cities Network, has endeavored to create a strong network among participating municipalities to help overcome the main challenges mentioned above. Currently (2022), it is formed of 64 municipalities and is expanding further. One of its flagship initiatives is the development of a Health Atlas platform displaying data on health indicators and best practices addressing health determinants at the municipal level. This project aims to support associate municipalities in advancing knowledge and practice for more integrated city health development plans.

The recent decentralization process and transfer of competencies in the health area (Law 23/2019, January 30) has been a "hot" topic of discussion within Portugal, mainly due to questions regarding financial allocation and management. Yet, this legal framework endowed local governments with a more formal health mandate and offers space to develop a higher political

commitment to local health promotion. Within the scope of new competencies, city councils are required to prepare a municipal health strategy and establish a municipal health council. While still early in the implementation process and in the absence of any guidance on how to develop the strategy (e.g., common frameworks to follow, indicators to include, health action plan templates), some municipalities started to develop their own municipal health strategies. In this context, academic partnerships are considered key to filling the evidence gap and translating knowledge and methods into policy and practice. Early success is found in the Municipality of Coimbra (associate municipality of the Portuguese Network of Healthy Municipalities), where the city council embarked on a partnership with academia (University of Coimbra) to develop an evidence-based strategy to improve health.

The aim of this article is to present the conceptual and methodological framework that oriented the development of an integrated and multisectoral municipal health strategy in the city of Coimbra, Portugal.

2. The Municipal Health Strategy of Coimbra 2021–2025: An Example of an Integrated Approach to Health

The Municipal Health Strategy of Coimbra (MHS of Coimbra) is defined as a planning tool for health promotion in the municipality. It sets out a five-year plan which guides activities and investments for the development of healthier environments and healthier populations, aimed at reducing the avoidable and unjust health inequalities between social groups and geographical areas. In this tool, the strategic goals and strategies to reach them are defined and broken down into specific actions, measures, and interventions (action plan). Its elaboration is based on an evidence-based, thorough, and comprehensive analysis of the current health situation (where the municipality stands) and of the expected available resources and chosen priorities (where the municipality is heading).

2.1. Conceptual Framework

The MHS of Coimbra is anchored in the broad health promotion scheme of the Healthy Cities Project, building on the WHO's (1948, para. 2) definition of health as "a state of complete physical, mental and social well-being not merely the absence of disease or infirmity," and on the recognition of the role that local governments, through territorial planning activities, can have in preventing disease and promoting health by addressing the place-based determinants of health (Ashton et al., 1986; Barton & Tsourou, 2000; Duhl & Sanchez, 1999; UN-Habitat & WHO, 2020; WHO, 2012).

The design of the conceptual and methodological framework follows previous studies of population health evaluation (Freitas et al., 2020; Santana, 2007, 2015; Santana et al., 2017b, 2020) and is built upon the well-known "population health approach" with a geographic lens. This looks at how the population's health outcomes and health determinants are geographically distributed, as well as the extent to which policies and interventions from multiple sectors can address them (Kindig & Stoddart, 2003). Complementing this approach, the health map developed by Barton and Grant (2006) was used as a model for local analysis of the relationship between health and place. This conceptual framework is informed by the main determinants of the health model (Dahlgren & Whitehead, 1991, 2006), showing how various spheres of living conditions—the social, economic, built, and physical environmental determinants of health—are interconnected, thus providing a glimpse of the pathways through which policy and planning decisions may affect health (Figure 1).

2.2. Methodological Framework

The development of the MHS of Coimbra followed an iterative seven-stage process based on a workflow of five key actions: assess, prioritize, plan, implement, and monitor (see Figure 2).

2.2.1. Stage 1: Health Profile

According to the definition provided by the WHO Regional Office for Europe (1995, p. 11), "a city's health profile is a quantitative and qualitative description of the health of the citizens and the factors which influence their health. It identifies problems, proposes areas for improvement and stimulates action." Following this definition, the municipal health profile of Coimbra was elaborated considering not only the information on health outcomes but also on health determinants with respect to their impact on health. The selection of health indicators and the factors affecting them were based on scientific evidence gathered namely in the GeoHealthS (Santana, 2015; Santana et al., 2015) and EURO-HEALTHY projects (Freitas et al., 2018, 2020; Santana et al., 2020). These projects applied a geographical and multidimensional framework to analyze health at a regional and municipal level, looking at a broad range of indicators across dimensions of (a) health outcomes (mortality and morbidity), (b) lifestyles (health behaviors), and (c) health determinants (e.g., socioeconomic factors, built and physical environments, health care, safety) starting with the assumption that there is no single factor explaining health inequities and, thus, no single solution or policy response (WHO Regional Office for Europe, 2019b).

Figure 3 depicts the multidimensional framework used in Stage 1—Health Profile. It is inspired by the main determinants of the health model (Dahlgren & Whitehead, 1991, 2006) and by the Utrecht health profile model (City of Utrecht, 2018). In each dimension, quantitative and qualitative data were collected using various kinds of data sources (e.g., death and disease

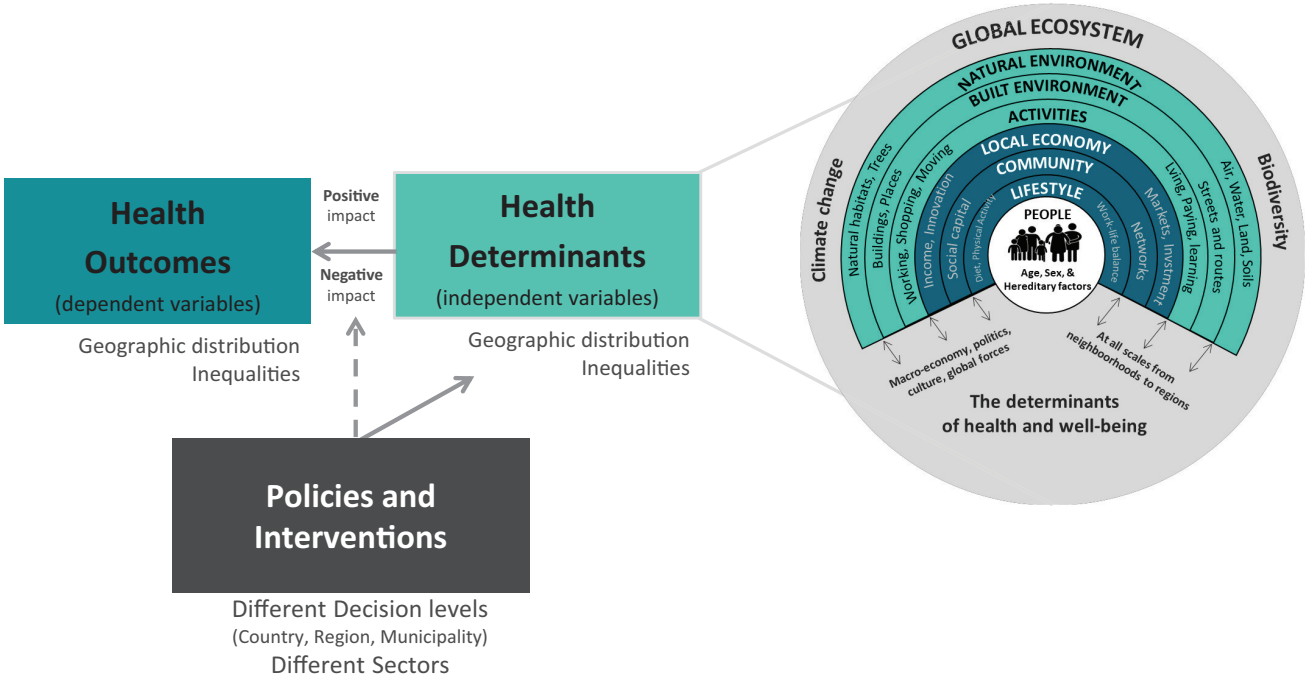

Figure 1. The population health approach considering the model of the main determinants of health. Source: Authors' work adapted from Barton and Grant (2006), Dahlgren and Whitehead (1991, 2006), and Kindig and Stoddart (2003).

registries, health care information, questionnaire-based surveys), and in-depth analysis was made wherever possible at the neighborhood level, using disaggregated data for the 18 civil parishes of the Municipality of Coimbra. In this regard and following the WHO guidelines for including a community-based assessment of health (WHO Centre for Urban Health, 2001), a population-based survey on health and well-being was applied to a representative sample of residents (representative for each civil parish, sex, and age) yielding a final sample of 1,117 participants. This provided data on health behaviors (e.g., physical activity levels, diet, alcohol and tobacco consumption), sociodemographic and economic characteristics (e.g., age, sex, educational level, income),

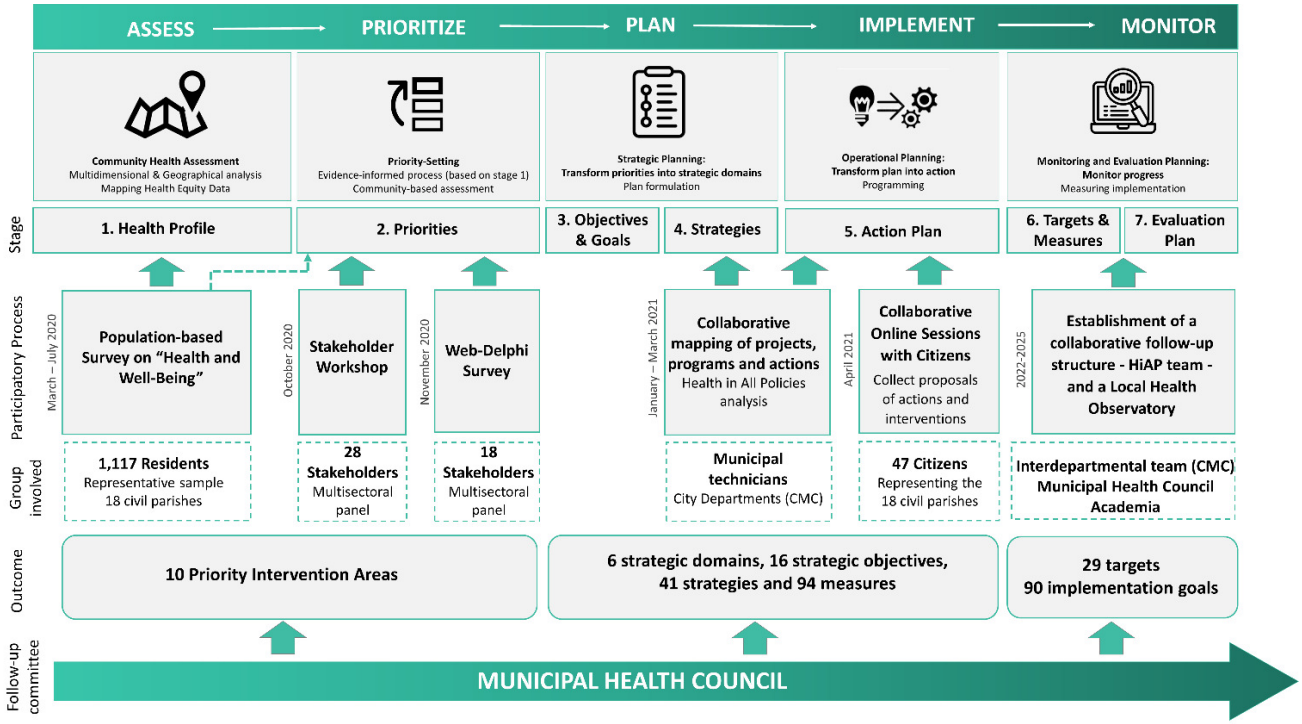

Figure 2. The planning cycle and applied participatory processes in the MHS of Coimbra.

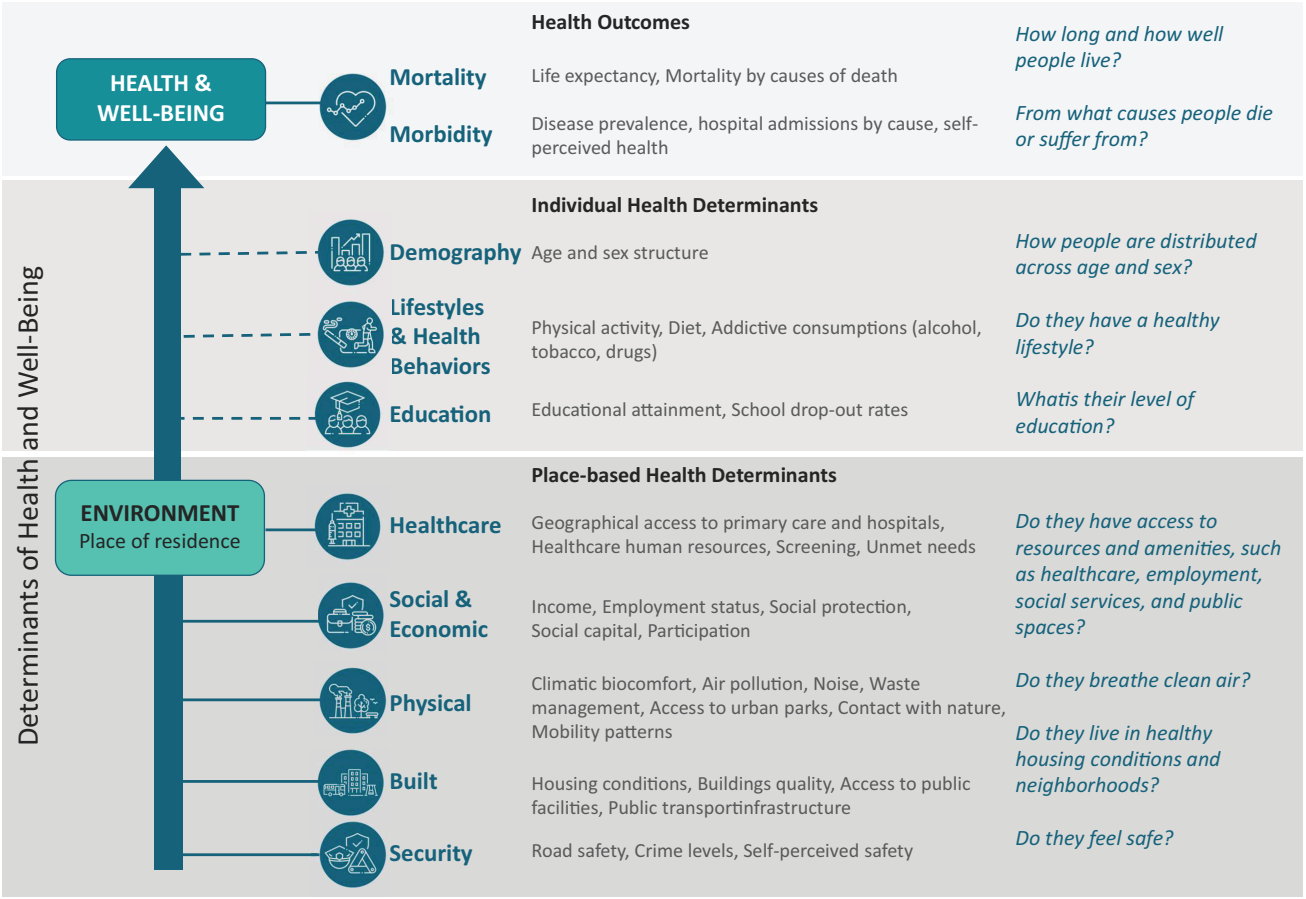

Figure 3. The multidimensional framework of health assessment applied in the MHS of Coimbra. Note: the list of indicators is provided in Supplementary File 2. Source: Authors' work adapted from Câmara Municipal de Coimbra and Universidade de Coimbra (2020).

self-perceived health as well as perceptions of the quality of the respective local environment, namely the social, physical, and built environment conditions (e.g., social activities, neighborhood amenities, housing conditions, public spaces, mobility, transportation, access to health and social care, public safety). The list of indicators integrating the health profile and respective data sources can be consulted in Supplementary File 2.

2.2.2. Stage 2: Priorities

After the health assessment, it was considered essential to determine what and where priorities should be placed. The prioritization process is a key stage in health planning, enabling the identification of priority problems in which to intervene. Under Stage 2—Priorities, two participatory processes were held, a one-day workshop and a two-round web-Delphi survey, with the aim to engage a local panel of stakeholders, first in the identification of health issues and locally critical situations across multiple dimensions of health determinants, and second, to prioritize them. A total of 28 individuals, from regional and local institutions from different sectors, were invited to participate. Overall, the panel represented different points of view considered valuable to inform the municipal health strategy, e.g., local government departments, academia, healthcare, social care, and public security sectors (the list of stakeholders is provided in Supplementary File 1).

The one-day workshop was held in October 2020. The methodology and workshop protocol were based on previous research (Freitas et al., 2020). The nominal group technique was conducted to identify problems and involved 28 participants. The experts were divided into discussion groups according to the stakeholders' area of expertise and covered the main dimensions of health determinants (see Figure 3). Each group was assigned a specific set of indicators. To support the analysis, indicator matrices with data disaggregated at the civil parish level were constructed and complemented with maps. In total, the performances of each civil parish on 67 indicators across seven dimensions of health determinants were displayed: Lifestyles and Health Behaviors (eight indicators), Healthcare (22), Education (three), Social and Economic Environment (15), Physical Environment (11), Built Environment (14), and Safety (four). The data was organized in a way that allowed participants to easily visualize how well or badly each civil parish was performing against given benchmarks: the municipality average and the worst and the best performances. Participants

were asked to identify critical situations by marking in red the cells corresponding to critical performances (civil parishes in columns) in one or more indicators (indicator data in rows). In summary, a critical situation depicted a civil parish where, considering the evidence provided, its performance in one or more indicators would potentially have a negative effect on health equity and should consequently be considered a priority for intervention (Figure 4). The assessment was conducted individually and then discussed within each group. To support the analysis, participants were provided with a consultation dossier with each indicator identity cards (i.e., metadata, information on how it affects health) and a map showing its geographical distribution in the municipality. The panel also had the opportunity to analyze a series of maps showing the geographical variation of 27 indicators of health outcomes, namely mortality by causes of death, disease prevalence, and hospital admissions (Figures 4 and 5).

The assessment conducted in the stakeholder workshop resulted in a preliminary list of critical situations in 45 indicators of health determinants. This list was then clustered into 16 problematic topics to be submitted to the prioritization process. Each topic corresponded to one or more indicators characterizing that topic and where civil parishes' performances were identified as critical situations. For example, the problematic topic "housing conditions" integrated the following five indicators where worse performances were found: (a) percentage of overcrowded houses, (b) percentage of houses with damp problems, (c) percentage of houses without central heating, (d) percentage of houses needing major repair, and (e) percentage of buildings without wheelchair accessibility.

The next activity developed consensus among stakeholders about the top priority problems to be addressed by the municipal health strategy. The priority-setting was conducted through the application of a web-Delphi questionnaire in two rounds, involving 18 experts, 14 from the initial local panel (see Supplementary File 1) and four representatives of professional public associations belonging to the Municipal Health Council (pharmacists,

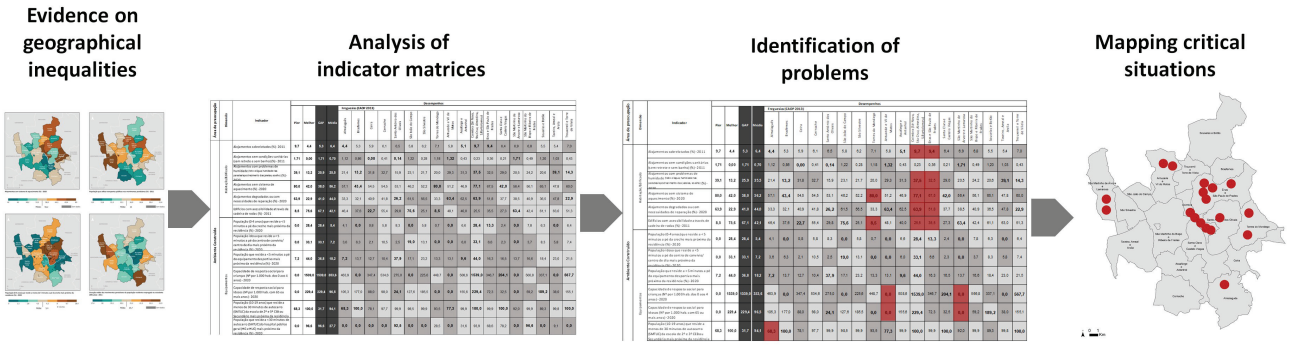

Figure 4. The evidence-based matrix methodology to assess problems during the stakeholder workshop. Note: Illustrative example for the Built Environment dimension.

Figure 5. Photos illustrating the consultation process held in the stakeholder workshop.

physicians, nurses, and architects). This process was held in November 2020 through the platform Welphi, which is an online survey platform that implements the Delphi method. The Delphi method is a structured consultation process that uses a series of repeated rounds to gather information from an anonymous group of experts with the final goal of achieving "agreement among experts on a certain issue where none previously existed" (Keeney et al., 2010, p. 4).

Two criteria were determined to guide the prioritization process: (a) *equity*, considering the existent gaps between civil parishes in the health determinants considered as problematic topics to be addressed, and (b) *municipal capacity*, the municipality's level of operational capacity to address the identified problems, considering its formal competences, available resources, as well as ability to promote intersectoral collaborations. Specifically, as a first step, participants were asked to assign the relative importance (weight) to each criterion (on a scale from 0 to 10) and then to rank the list of 16 problematic topics against each criterion. Participants were provided with consultation material, including indicator matrices with critical situations, respective maps, and indicator metadata. After the second round, where experts had the opportunity to reconsider their answers in the light of the group consensus, weighted averages for each criterion were calculated, resulting in an aggregate score for each problem and respective ranking (a problem with a higher score would be considered a higher priority, lower scores equating to lower priorities).

The population-based survey, conducted previously, provided additional information on the citizen's priority areas for intervention in each civil parish. The joint analysis of stakeholders' and citizens' priorities informed the subsequent stages of transforming priorities into plans (Stage 3—Objectives and Goals and Stage 4—Strategies).

2.2.3. Stage 3: Objectives and Goals

To each priority defined in the previous stage, one or more strategic objectives were assigned. These were outlined as the "big-picture goals" for health promotion, describing the overall outcomes and targets to be achieved. Each objective was also framed considering its contribution to the 2030 Agenda for Sustainable Development, as this framework also became an integral part of current local action, and many of the issues and priorities identified were in line with several sustainable development goals (SDGs). For example, to address priority issues regarding "housing conditions," the strategic objective was assigned as "improving housing quality and safety" and respective targets defined in relation to the indicators considered critical in the municipality—"decrease the percentage of houses in need of major repair" and "decrease the percentage of people living in thermal discomfort in housing." These targets are indirectly linked to some of the targets defined within the SDG 11 "sustainable cities and communities" (e.g., Target 11.1—"By 2030, ensure access for all to adequate, safe, and affordable housing and basic services and upgrade slums") and SDG 3 "good health and well-being'' (e.g., Target 3.4—"By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being"), considering that poor housing and poor heating have been associated with a range of non-communicable diseases, such as heart and chronic respiratory diseases.

2.2.4. Stage 4: Strategies

The aim of this stage was to group the priorities and objectives, defined previously, into domains of intervention representing the strategic domains that were to guide the plan formulation. First, all projects, programs, and actions, being planned or implemented, were identified and mapped to address each strategic objective. This systematization of policies was collaborative, involving not only the research team but technicians from all city departments directly or indirectly linked to strategic domains (e.g., the Departments of Social Development, Health and Environment, Education, Public Spaces and Mobility, Transport, and Urban Planning). Following a HiAP approach, the aim was to capitalize on all municipal measures and interventions with the potential to address each objective. This analysis provided an integrated view of the existent gaps in policy measures that were needed to address some of the priorities and objectives defined. This led to a search for evidence-based practices and strategies in the literature and in other cities worldwide to complete the plan formulation. For example, all the priorities and objectives associated with housing issues were grouped in the domain "affordable and adequate housing." Considering the mapping of existent policies and the collection of best practices, five strategies were defined to address this domain (e.g., the provision of housing at affordable prices, the improvement of thermal comfort and energy efficiency, and the improvement of accessibility to buildings). This process of selecting policies and strategies informed the following stage of programming, that is, defining specific and place-based actions within each strategy (Stage 5—Action Plan).

2.2.5. Stage 5: Action Plan

This stage corresponded to the development of a five-year plan outlining concrete and context-specific actions needed to reach the strategic objectives and implement the strategies defined in the previous stages. At this stage, public consultation was considered fundamental since the first assumption of the municipal health strategy was to address health issues considering a place-based approach, looking at the existent geographical inequalities and specific local needs (that is, a priority in

one civil parish was not necessarily identified in another civil parish, so the definition of actions should reflect this geography). To collect the views and opinions from the community on what were the priority interventions and actions in each civil parish, a series of citizen sessions were held in April 2021. Due to the restrictions determined by the Covid-19 pandemic these sessions were conducted online using the Zoom platform (discussion groups were formed through breakout rooms) and the Miro tool, an online collaborative platform that helps to manage group discussion and enables a visual representation of the brainstorming with digital sticky notes and diagrams. Sessions were organized considering the typology of territory: (a) urban (two civil parishes), (b) peri-urban (nine civil parishes), and (c) rural (seven civil parishes). In each session, citizens pointed out the main problems of their residential area and presented proposed actions. A total of 59 individuals (47 citizens and 12 municipal technicians) participated in these sessions forming a discussion panel that contributed with more than 100 proposed actions. Figure 6 presents an illustrative example of the collaborative diagram of contributions in the session dedicated to rural civil parishes.

2.2.6. Stages 6 and 7: Monitoring and Evaluation Planning

The last activity of the planning cycle corresponded to the design of a monitoring and evaluation strategy where targets and respective indicators were defined to (a) measure progress in the attainment of strategic objectives (Stage 6—Targets & Measures) and (b) to monitor and evaluate the implementation strategy (Stage 7—Evaluation Plan). For each strategic objective, one or more targets (measurable objectives) were defined to be accomplished in the specified period (five years). Each target corresponds to the expected outcome, and it was defined considering the actual municipal performance (status quo) from baseline data, that is, from indicators used in the health profile and aligned with the identified priorities. Finally, implementation goals and milestones were established for each action or measure defined in the action plan to enable the evaluation of progress in its execution. To support evaluation activities and the follow-up of the strategy implementation, it was considered critical to create a collaborative and integrated structure involving an interdepartmental team from the city council (HiAP project team), the Municipal Health Council (intersectoral committee), and academia (to provide consultancy and technical support).

3. Results and Discussion

The combination of evidence on geographical inequalities, health outcomes, and health determinants across the municipality, with the points of view of stakeholders and citizens, resulted in the definition of 10 priorities to promote health in the Municipality of Coimbra. These priorities oriented the definition of six strategic domains, corresponding to multisectoral areas of municipal intervention.

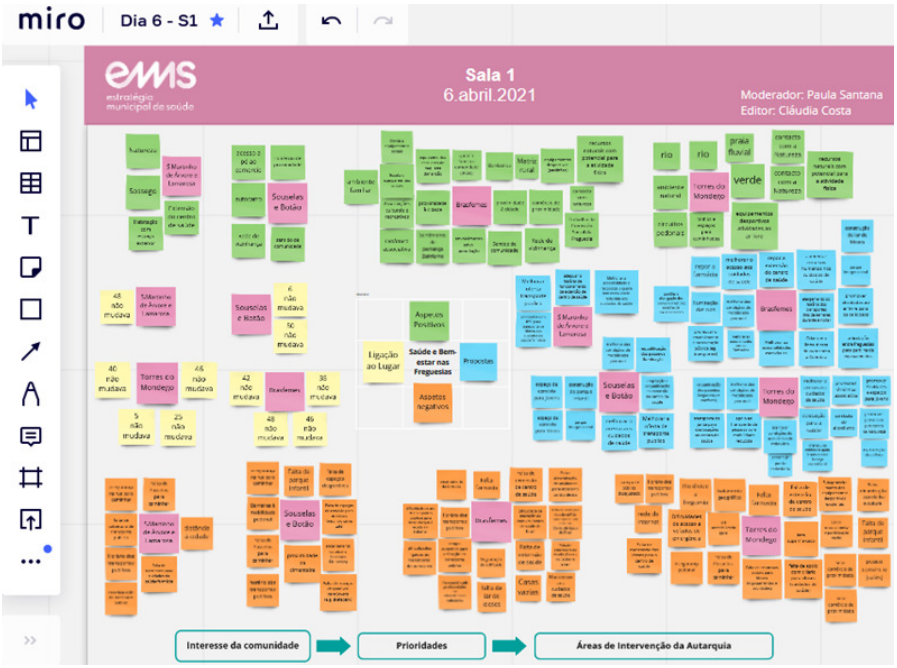

Figure 6. Lotus diagram representing the proposals of citizens in the collaborative session dedicated to rural civil parishes (illustrative example). Note: In the center of the diagram is the central theme (health and well-being in the civil parish), and then the digital sticky notes are expanded outwards in an iterative manner with the proposed solution areas. Source: Câmara Municipal de Coimbra and University of Coimbra (2021).

Although different methods were used to develop priorities, adapting the process to suit respective contexts and audiences (a workshop and a web-Delphi survey with stakeholders and a population-based survey with citizens) resulted in an overall ranking of issues reflecting a shared understanding of the problems affecting municipal health. This was particularly evident for issues related to public transport, mobility, housing, and social support for older people, which were prioritized by both groups. Worthy of mention is the fact that built environment features related to urban planning, such as public spaces, contact with nature, traffic and parking, and urban maintenance, were considered top priorities by citizens (Figure 7). Another innovative aspect is the geographical nature of the priority-setting process, considering the specific problems of each civil parish. Stakeholders were provided with evidence on the geographical inequalities in health determinants across the municipality and had the opportunity to prioritize issues considering "equity" criteria, here understood from the point of view that the geographic location and place of residence (in this case, the civil parish where population live) has an impact on health outcomes (e.g., reduction of pollution) and/or on the ability to access health-promoting resources and services (e.g., access to healthcare, access to public transport), thus producing place-based health equity or inequity. This geographical approach to defining priorities was considered key to guiding the definition of a locally delivered action plan aiming to address specific local needs. For example, issues related to public transport and access to primary health care were defined as priorities for intervention in the peripheral areas of the municipality (rural civil parishes) whereas active mobility and public space were ranked high in the peri-urban areas. The support for the vulnerable older population was a priority mainly allocated to urban areas given the high number of older people living alone and/or living in buildings with no elevator. Figure 8 presents the geographical incidence of the 10 priorities for intervention in the municipality.

Figure 9 shows the strategic policy framework defined for municipal health planning grounded in five key pillars for effective health promotion: Healthy People, Healthy Place, Healthy Community, Healthy Behavior, and Healthy Governance. Healthy People is linked to health outcomes, Healthy Place to the physical and built environment, Healthy Community to the social environment, Healthy Behavior to individual lifestyles, and Healthy Governance to decision-making practices and processes. The policy framework of action operationalizes a strategic vision that puts health and well-being at the center and gives emphasis to conditions, resources, and opportunities, enabling everyone to be healthy, regardless of their age, sex, socioeconomic status, physical condition, or place of residence.

The Municipal Health Plan of Coimbra outlines a total of 16 objectives and 94 proposed actions across six strategic multisectoral domains to enable people living in the municipality to achieve optimum health and well-being: (a) Sustainable Mobility and Public Space, (b) Affordable and Adequate Housing, (c) Proximity to Primary Health Care, (d) Social Cohesion and Public Participation, (e) Education and Health Literacy, and (f) Collaborative and Intersectoral Leadership (Figures 9 and 10). The higher number of proposed actions are within the domain of Sustainable Mobility and Public Space (31), addressing urban planning aspects (e.g., transport, mobility, land use, public space, and safety),

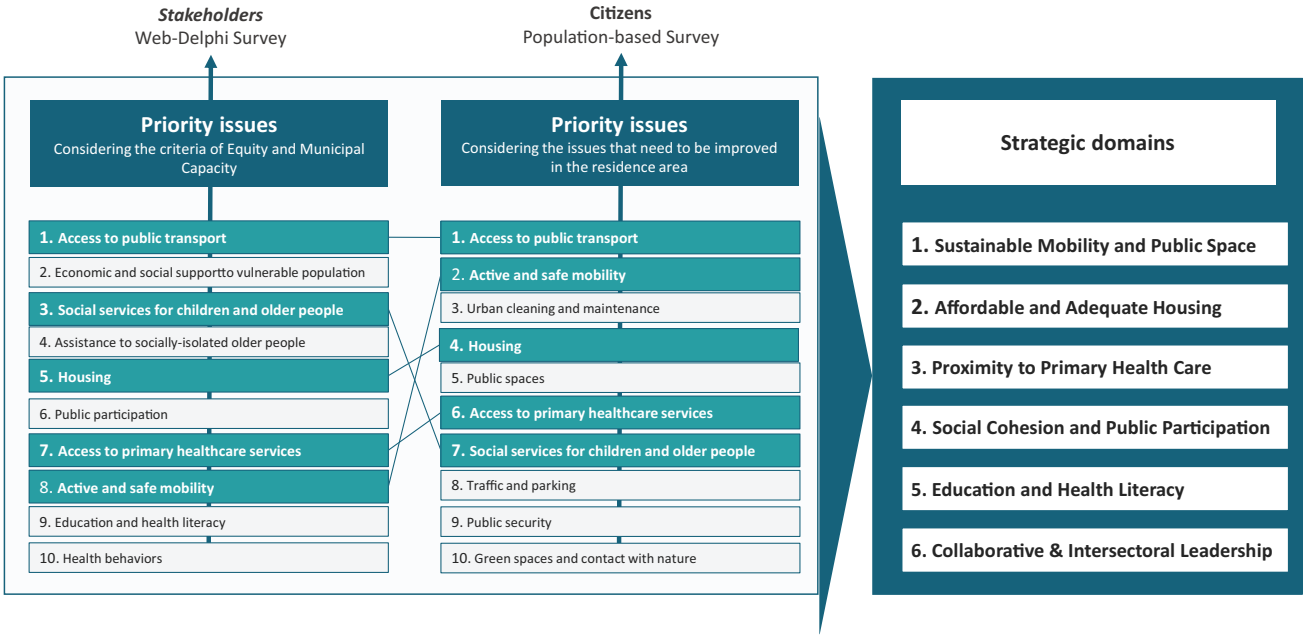

Figure 7. Comparison between priorities identified by local stakeholders and by citizens and their alignment with the strategic domains. Source: Câmara Municipal de Coimbra and University of Coimbra (2021).

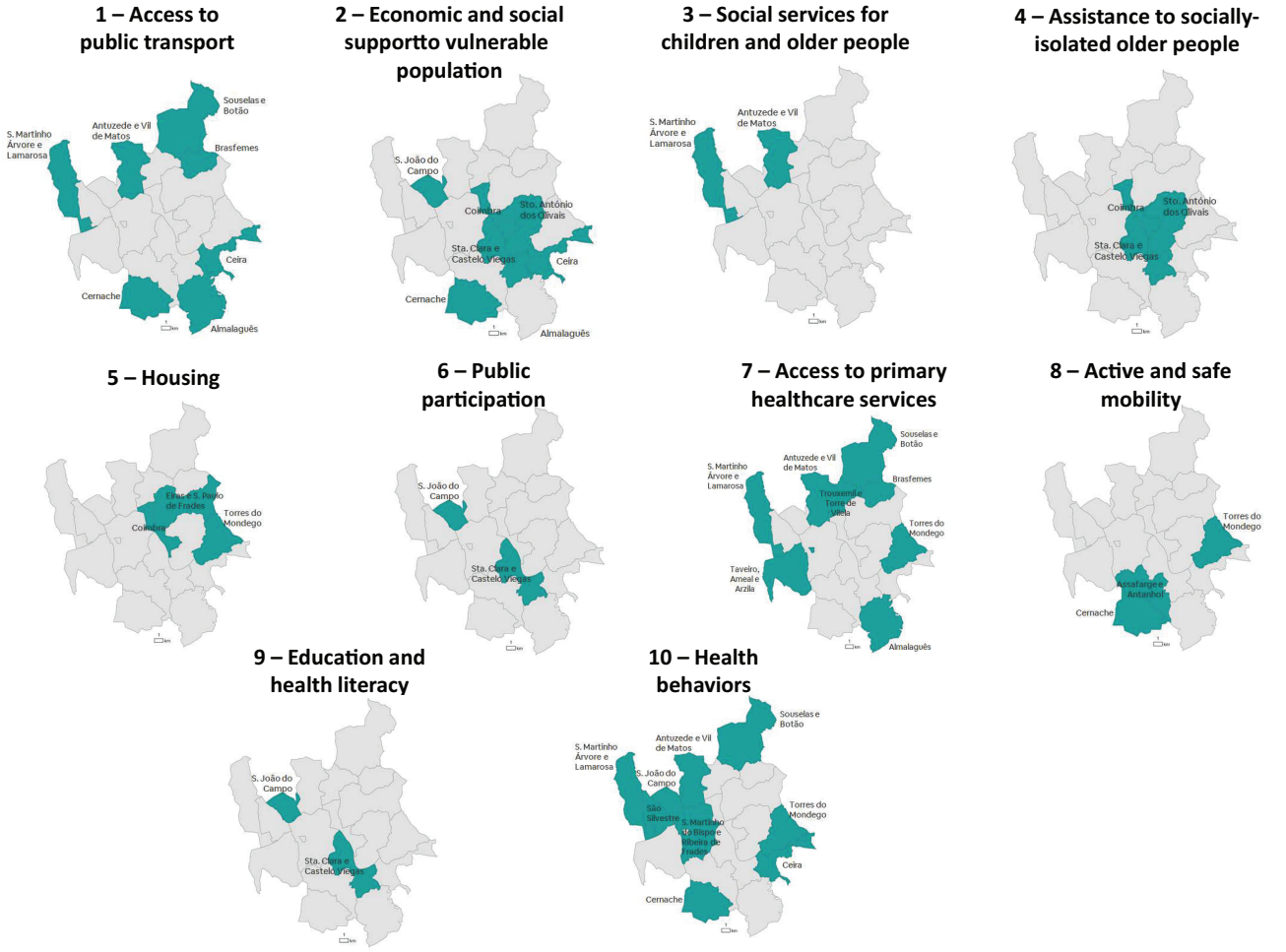

Figure 8. Geographical incidence of the 10 priorities of intervention. Source: Câmara Municipal de Coimbra and University of Coimbra (2021).

followed by Education and Health Literacy (16), focused at promoting opportunities and resources for the adoption of healthier lifestyles considering different settings (e.g., schools, institutions) and target populations (e.g., older people, poor families). The domain dedicated to Housing gathered a reduced number of proposed new actions (nine) because the municipality has an ongoing Municipal Housing Strategy, whose measures and interventions considered relevant for health promotion were already taken into account in the stage of selecting policies (Stage 4—Strategies). The same applies to Social Cohesion since the municipality already devotes significant attention to social issues and has an ongoing Social Development Plan. New proposed actions in these two domains complement and fill some equity gaps identified as critical situations in specific civil parishes. Regarding Primary Health Care, actions address the need to improve geographical access in peripheral areas and to develop a more integrated health service, as well as improve the collaboration between the City Council and local and regional health administrations. In this domain, it is worth mentioning that the City Council has limited competencies with regards to healthcare provision.

A particularly innovative aspect of the MHS of Coimbra is the inclusion of a strategic domain corresponding to Governance. The proposed actions (13) aim to change the actual siloed policy-making model and to break down the barriers between city departments as well as between the City Council and health institutions. This domain also reflects the HiAP approach, embedding actions dedicated to boosting collaboration and integrated practices and processes within the municipal governance structure. Intersectoral collaboration is considered fundamental in the context of municipal health planning.

The implementation of the MHS of Coimbra is currently underway as its action plan was established for the period between January 2022 and December 2025. Since it is the first city health plan to be developed and implemented in the City of Coimbra, the first year is dedicated to establishing the necessary governance structure changes and practices. Furthermore, local government is now provided with a monitoring tool and evaluation plan useful to monitor progress towards the achievement of integrated policies that prioritize local health needs. Not only was each target defined

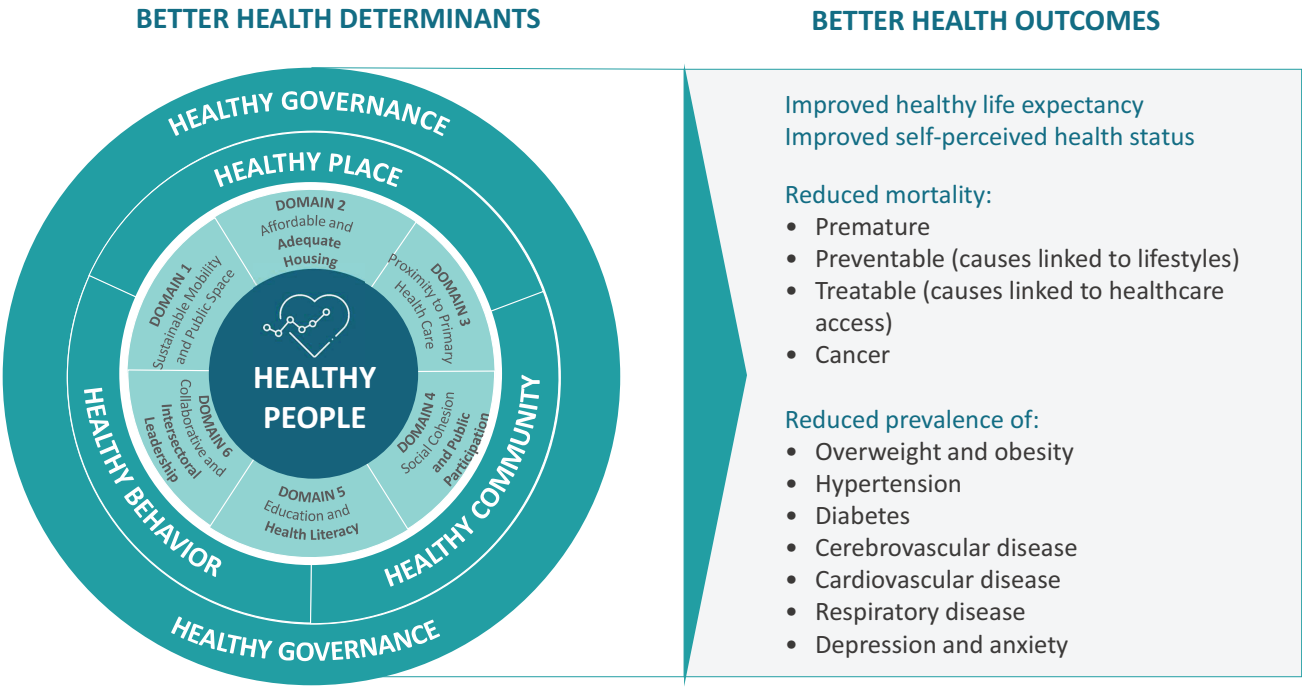

Figure 9. Strategic policy framework of the Coimbra Municipal Health Strategy. Source: Source: Câmara Municipal de Coimbra and University of Coimbra (2021).

	DOMAIN	STRATEGIC OBJECTIVE	ACTIONS (Number)	
HEALTHY PLACE	DOMAIN 1. Sustainable Mobility and Public Space	1. To encourage the use of public transportation	7	31
		2. To increase active travel and soft mobility (walking, cycling)	12	
		3. To promote accessible, inclusive, clean and safe public spaces	12	
	DOMAIN 2. Affordable and Adequate Housing	4. To increase the offer of affordable housing	2	9
		5. To improve housing quality and safety	7	
HEALTHY COMMUNITY	DOMAIN 3. Proximity to Primary Health Care	6. To reinforce and qualify the proximity offer of primary health care	7	12
		7. To enhance accessibility to primary health care services	2	
		8. To strengthen collaboration between City Council and healthcare services	3	
	DOMAIN 4. Social Cohesion and Public Participation	9. To reduce poverty and social exclusion	2	13
		10. To promote social inclusion and social activities for the older people	5	
		11. To reinforce the offer of social services for family and community	3	
		12. To promote citizen engagement and community development	3	
HEALTHY BEHAVIOR	DOMAIN 5. Education and Health Literacy	13. To promote conditions for healthy lifestyles and prevent risk behaviors	10	16
		14. To enhance communication, capacity and health literacy	6	
HEALTHY GOVERNANCE	DOMAIN 6. Collaborative and Intersectoral Leadership	15. To promote the adoption of Health in All Municipal Policies	8	13
		16. To reinforce the intersectoral action for health	5	
				94

Figure 10. Strategic objectives and number of actions by policy domain. Source: Source: Câmara Municipal de Coimbra and University of Coimbra (2021).

considering available indicator data to measure progress but also each concrete action proposed in the action plan has a specific "roadmap of implementation." This roadmap provides information on (a) geographical incidence (i.e., in which civil parishes a specific action is a priority), (b) target population, (c) municipal departments involved, (d) stakeholders to involve as partners, (e) milestones and implementation goals, and (f) final and mid-term evaluation indicators, the latter to support potential adjustments. The guidance on implementation and monitoring is expected to be supported by a follow-up committee involving the Municipal Health Council in close collaboration with the University of Coimbra as a way of benefiting from research translation in terms of evidence, methods, and approaches.

3.1. Summary of Main Findings

This study described the conceptual and methodological approach used to develop an integrated and multisectoral health municipal plan, taking as a case the MHS of Coimbra. Overall, the methodologies applied, as well as the planning cycle activities, could serve as an example for adopting a place-based health plan and guide other municipalities in developing such an instrument. Yet, it should not be seen as a "blind" prescription of a list of indicators, priorities, and strategies. Each municipality should start from its specific context to set priorities, involving local stakeholders and citizens.

Below are four key takeaway messages that should inform integrated health planning approaches and may contribute to establishing the local government's capacity to promote health.

3.1.1. Geographic and Multidimensional Approach to Health: Focused on Health Determinants

To effectively influence population health and improve health outcomes it is critical to adopt a broad view of health and conduct an in-depth community health assessment which considers multiple determinants of health—not only lifestyles and healthcare but also the social, economic, physical, and built environment conditions. This assessment must be geographically oriented since health outcomes are not evenly distributed across a municipality and differences in health reflect the differing social, environmental, and economic conditions of local communities. The mapping of those equity gaps through disaggregated data at local scales is crucial to identifying appropriate and place-based policy responses.

3.1.2. Evidence-Informed Health Assessment and Priority Setting: Focused on Geographical Data and Local Knowledge

As recognized in the literature, the priority-setting process is highly dependent on the goal, the context, and the points of view of stakeholders (Tan et al., 2022). The issues requiring priority intervention in a specific period should be contextually defined and involve all concerned parties. The place-based approach used for assessing health problems and developing priorities included two critical aspects of effective planning. First, it gathered geographically disaggregated data on health indicators at the sub-municipal level. The use of area-level indicators invariably reveals inequities stemming from a locational or place-based disadvantage, therefore having quality data available is essential for accurate health assessment and priority-setting. Second, it involved local stakeholders and citizens from the beginning of the planning cycle, recognizing that local knowledge is vital, alongside data, when it comes to both identifying and analyzing context-specific health inequities.

3.1.3. Health in All Policies Approach to Municipal Policymaking: Focused on Multi and Intersectoral Action

Following the Healthy Cities principles that health can be improved by modifying the physical and built environment and the social and economic determinants of health (Ashton et al., 1986), the adoption of a HiAP analytic framework is a fundamental component of effective municipal health planning. Drawing up a municipal health strategy that puts emphasis on the leadership role that local government play in acting upon different health domains and on the involvement of stakeholders from multiple sectors can be a catalyst for a formal change in the local governance structure, shifting from siloed city planning (departments operating as silos) to a more integrated, and collaborative approach. The action plan defined under the MHS of Coimbra set the direction for more healthy and participatory governance, integrating health considerations in all municipal policies and applying a participatory approach not only to planning but also to implementation through the mobilization of different city partners to implement multisectoral solutions. In this respect, it is worth highlighting that the defined strategic goals were framed and aligned with the SDGs framework, providing an even more compelling imperative of action in the context of whole-of-government approaches.

3.1.4. Strengthening and Monitoring Local Government Policy: Focused on Place-Based Inequities and Co-Creation

The conceptual and methodological approach applied to the MHS of Coimbra has at its core indicators and methods relevant to monitoring progress towards the achievement of different municipal policies that impact health, thus reinforcing the understanding and awareness of the role local government plays and highlighting multisectoral co-benefits (e.g., access to public transport, provision of services, adequate housing, environmental quality). The use of area-level indicators is an efficient means

of analyzing existing variations in health determinants and identifying those neighborhoods that need to be prioritized (Freitas et al., 2020; Pineo, Glonti, et al., 2019). The methods used to identify and select place-based inequities affecting health across the different neighborhoods of the municipality are aligned with established decision-support tools to assess urban health equity, such as the well-known WHO urban health equity assessment and response tool (Urban HEART), successfully applied in several cities around the world (Prasad et al., 2015; WHO, 2010). Another aspect that helps strengthen the local government's role is the political commitment, collaboration, and follow-up from the beginning of the planning cycle. Worth mentioning is the active involvement of the City of Coimbra in the following activities: (a) application of the population-based survey across all civil parishes, (b) collection of all data needed to build indicators used in the health profile (e.g., social action, public transport system, accessibility data, noise and pollution, services and facilities), (c) facilitation and mediation with local stakeholders involved in the participatory processes, (d) involvement of all city departments in the collaborative mapping of policies and in the discussion of the action plan, and (e) discussion and approval within the municipal assembly involving local political leaders.

The implementation of an integrated municipal health strategy requires strong governance and political commitment and, most of all, should be guided by principles of co-creation, involving local stakeholders and citizens from the beginning of the planning cycle and then in its implementation and evaluation. The application of participatory processes is considered paramount given the assumption that when people are actively involved in decision-making processes, they feel more committed, avoiding future conflicts and thereby guaranteeing better implementation. For example, stakeholders participating in the process provided proposed actions where they could be involved in the implementation, and a number of projects were specifically defined to be developed in co-creation with citizens (with special attention to vulnerable groups), namely in the strategic domains Social Cohesion and Public Participation and Sustainable Mobility and Public Space (e.g., placemaking activities, citizen labs, community-based social and culture events).

3.2. Limitations and Further Research

As with most research, this study is subject to limitations that could be addressed in the future. The first is related to the development of a comprehensive indicator framework to assess and monitor health and health equity issues through a place-based lens. A good municipal health strategy is based on the analysis and assessment of health needs in different dimensions and looking at geographical inequalities to inform a place-oriented intervention. Although we developed an extensive database built with measurable spatially disaggregated variables reflecting the status quo of the different neighborhoods (civil parishes) in multiple health determinants, there were some barriers regarding the availability of data in some indicators. Criteria related to having valid and available data from official statistics, disaggregated at the sub-municipal level, created some barriers. A specific limitation was not having indicator data disaggregated by sex and age, which could represent a flaw when monitoring health equity. However, we were able to overcome other barriers related to the availability of area-level data, namely in health behaviors and housing conditions, through the application of a population-based survey (with a representative sample of the population), and in the physical and built environment, where the research team built spatial indicators that were not available in the municipality (e.g., distance to healthcare and green spaces, access to public transport, exposure to air pollution and noise). The type of indicators used and data availability may hinder the potential replicability of the presented framework to other settings. Nevertheless, the indicator framework should be meaningful for the context and city, using locally available data, to effectively address the needs of each neighborhood.

The second limitation concerns public participation in the participatory processes, namely in the collaborative online sessions with citizens to collect proposed actions and interventions in each civil parish. These sessions were held in April 2021, a time when face-to-face meetings and gatherings were restricted due to the Covid-19 pandemic. The fact that sessions had to be conducted online through Zoom may have limited the participation of some population groups, namely older people with low digital skills or knowledge barriers, marginalized groups, and migrants, among others. Although the City of Coimbra conducted an extensive communication campaign using social media and email, we can report that the number of citizens participating was below our expectations. Another aspect that the team could not control was the representativeness in terms of e.g., age, gender, or educational level because the sessions were open to everyone who wanted to participate; the only criterion being residency in the municipality. Yet, people that participated were actively engaged in local advocacy and were knowledgeable on the main issues affecting health and well-being in their place of residence, which contributed to a fruitful discussion, resulting in a high number of proposals for interventions.

Finally, the implementation of this policy framework and whether and how local government will track performance against targets defined in the action plan depends, always and ultimately, on political will and the commitment of the current city council (the municipal elections were held in September 2021 resulting in a change of the elected councilors). Often, policy implementation is limited by the short electoral cycles (four years) and dominant political interests. Baum et al. (2020) state that political will can be created through framing policy options in a way that makes

them more likely to be adopted. One way to do this could be to include implementation costs and to provide the "value for money" of each intervention in terms of its health impact. Another further research area is to explore alternative methodologies to assess the health equity impacts of proposed strategies. One example is the PROGRESS framework, a tool designed to assess the impact interventions can have on the following factors contributing to health inequity: place of residence, race/ethnicity/culture/language, occupation, gender/sex, religion, education, socioeconomic status, and social capital (O'Neill et al., 2014). A useful framework that could benefit further evaluation of the MHS of Coimbra is the application and adaptation of the availability, accessibility, acceptability, and quality framework, originally developed for the healthcare sector (UN Committee on Economic, Social and Cultural Rights, 2000), to assess if municipal policies and services are contributing to the right to health in those four standards, in line with the health determinants approach.

4. Conclusions

The aim of this article was to present the MHS of Coimbra as a case of an integrated, multi-sectoral, and evidence-informed policy framework with the potential to make a significant difference in the context of Portuguese municipal health planning and the current transfer of competencies since, at this time, there are no guidelines provided to develop such a tool. We began by describing the analytic approaches used to understand health in urban settings, the role of cities and local governments (health determinants, healthy cities, and HiAP frameworks), and providing insight into the current Portuguese context. We then described the planning cycle of the health strategy developed for the City of Coimbra focusing on the participatory planning aspects that oriented priorities, objectives, strategies, and concrete actions to promote health in cross-sectoral domains. At the heart of this strategy is the recognition that healthy places, healthy communities and healthy governance lead to healthy behaviors and healthy people.

There is no question that local policies have a major influence on health and that promoting health equity is a place-based issue. At the local level, interventions that create more walkable, cleaner, and safer urban environments will lead to more people engaging in physical activity and using the car less, with known positive impacts on health and environmental quality as well. The development of an integrated and multisectoral municipal health strategy can stimulate local governments to act as engines of public health and provide political leadership for health, equity, and sustainable urban development.

Acknowledgments

The authors would like to acknowledge the active involvement and support received from the Municipality of Coimbra and express gratitude for the opportunity of translating research into practice through the development of this study. The authors thank all team members involved in the MHS of Coimbra: Adriana Loureiro, Claudia Costa, Ricardo Almendra, Miguel Padeiro, Helena Peixoto, Joaquim Patriarca, from the University of Coimbra team, and Regina Bento, Isabel Geraldo, Pedro Carrana, and Susana Marcelino, from the Municipality of Coimbra. We would also like to gratefully acknowledge the participation of all local stakeholders and citizens involved in the participatory processes. The authors also thank Linda Naughton for her contribution to the grammatical and language revisions. This study received support from the Centre of Studies in Geography and Spatial Planning, funded by national funds through the Portuguese Foundation for Science and Technology (FCT) under the reference UIDB/04084/2020. Angela Freitas was a recipient of an individual doctoral fellowship funded by national funds through the FCT, under the reference SFRH/BD/123091/2016.

Conflict of Interests

The authors declare no conflict of interests.

Supplementary Material

Supplementary material for this article is available online in the format provided by the authors (unedited).

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