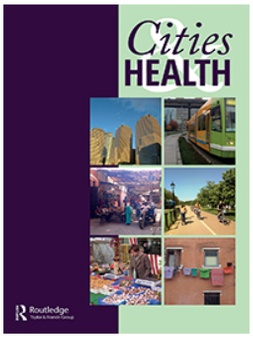

Cities & Health

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/rcah20

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To cite this article: Adriana Lein , Katherine Indvik , Juliet Braslow , Heather Rollins , Andrea Cortinez-O'Ryan , Patricia Frenz , Waleska Teixeira Caiaffa & Ana V. Diez Roux (2020): Health as a driver for urban policy in Latin America: a scoping review of literature from international organizations, Cities & Health, DOI: 10.1080/23748834.2020.1757371

To link to this article: https://doi.org/10.1080/23748834.2020.1757371

CITIES & HEALTH
https://doi.org/10.1080/23748834.2020.1757371

Routledge
Taylor & Francis Group

ORIGINAL SCHOLARSHIP

Health as a driver for urban policy in Latin America: a scoping review of literature from international organizations

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ABSTRACT

Identifying if and how health drives urban policies is critical for highlighting knowledge gaps and communicating evidence about health impacts to policymakers. A scoping review of grey literature published by international organizations from 1996–2018 identified the ways health is used to justify urban policies in Latin America. We reviewed 58 documents and identified 80 policies related to social inequalities, social inclusion and poverty; urban renewal, revitalization and housing upgrading; mobility and transport; emissions and pollution control; and urban safety and violence. Over half of those policies focused on social inequalities, over a third of those focused on urban renewal or mobility and transport, and all policies focused on emissions and pollution control referenced at least one health justification. Of 77 justifications identified, 22.1% related to health services utilization and access, 16.9% to general health, 18.2% to physical health, 18.2% to other general measures, 11.7% to health behaviors, 9.1% to health equity, and 3.9% to mortality. Only eight (10.4%) health justifications cited scientific evidence; only one referenced a peer-reviewed publication. Generally, health arguments were generic, underdeveloped, healthcare-focused, and/or unfounded in scientific evidence. Our findings highlight the need to effectively communicate scientific evidence on the health impacts of urban policy.

ARTICLE HISTORY
Received 31 January 2020
Accepted 14 April 2020

KEYWORDS
Evidence-based policy; urban health; scoping review; Latin American cities; health argument; public policy

Introduction

As a result of increasing urbanization worldwide (United Nations 2014) there is a growing call for improved policy-making, planning and management to promote urban health, and for robust evidence of the ways urban policies can be designed to promote health and health equity (Kjellstrom *et al.* 2007, World Health Organization & UN-Habitat 2016, Singh and Beagley 2017). Further, there is growing interest surrounding how better population health can contribute to the achievement of the Sustainable Development Goals (Nunes *et al.* 2016, World Health Organization 2016) and how policies designed to promote urban health can have multiple environmental co-benefits (World Health Organization 2016).

The need for a greater integration of health within urban policies, planning, and investments across all sectors has garnered attention from academics as well as from regional and global organizations. Additionally, a growing body of scientific literature has highlighted pathways between urban policies and health (Becerra *et al.* 2013, Mehdipanah *et al.* 2014, Corburn and Sverdlik 2017). Beyond individual lifestyle, complex social and environmental factors define health outcomes and health inequities in cities, and many of these (social and environmental determinants of health) are the product of urban design, planning, and interventions (Hancock 1985, Barton and Grant 2006, Dahlgren and Whitehead 2006).

There is also an ongoing debate surrounding whether the central role of health in achieving sustainable development is sufficiently acknowledged within the pronouncements of international organizations (Eckermann 2016). It has been argued, for example, that the critical role of urban health was not adequately addressed in the New Urban Agenda (Singh and Beagley 2017). To date, the extent to which health considerations are factored into the discussion of urban policies by international agencies has not been systematically investigated.

The Latin American region, with high levels of urbanization (UN-Habitat 2012) and innovative urban policies (Brand and Dávila 2011, Ward *et al.* 2014, Gomez *et al.* 2015, Cecchini and Bernal 2018), provides a unique case study for exploring whether and how health is discussed in international documents focused on urban policies. Despite the promising role of health as an overarching objective across sustainable

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Supplemental material for this article can be accessed here.

development targets (World Health Organization 2016) and the relevance of these questions to Latin America (Comaru Fde and Westphal 2004, Quistberg *et al.* 2019, Gomez *et al.* 2019), the extent to which health is leveraged as a justification for urban policy across sectors has not been widely investigated in the region.

This study was conducted within the context of the *Salud Urbana en América Latina* (SALURBAL) project, an interdisciplinary and multinational collaboration that examines drivers of health in Latin American cities (Diez Roux *et al.* 2019). We conducted a scoping review with the aim of determining whether and how health is incorporated as a justification for urban policies in Latin America within publications and reports of select international organizations. Identifying how health has been incorporated within policy documents is important in order to (1) highlight evidence gaps regarding the impact of urban policies on health and (2) improve the communication of this evidence so that health impacts can be considered throughout urban decision- and policy-making processes.

Methods

Study protocol and reporting were informed by the Joanna Briggs Institute (JBI) guidelines for scoping reviews (Peters *et al.* 2015). The approaches and recommendations of relevant methodological reviews were considered (Arksey and O'Malley 2005, Levac *et al.* 2010) as well as elements of the PRISMA statement (Moher *et al.* 2009).

Our search included documents published between 1996 and 2018 (the period between the Habitat II Conference and the early stages of implementation of the New Urban Agenda, adopted at Habitat III in October 2016). Documents eligible for review were published in Spanish, Portuguese, or English by five international organizations: the United Nations Human Settlements Program (UN-Habitat), the United Nations Economic Commission for Latin America and the Caribbean (UN-ECLAC), the World Bank (WB), the Inter-American Development Bank (IDB), and the Development Bank of Latin America (CAF). Each of these organizations houses their own electronic database. We focused on international organizations because their institutional literature is recognized to be a reliable and timely resource for policy analysis due to the role of these institutions in agenda-setting (Amaya *et al.* 2015) and in directing technical and financial assistance to support the delivery of urban interventions and services (World Bank 2006, Moretto 2007, Magalhães *et al.* 2016). The specific organizations were selected by the SALURBAL policy team as international organizations with relevant roles in setting and/or financing sustainable development and urban health policy agendas in Latin America.

We defined urban policies broadly but focused on specific policy themes based on their potential to impact health (Diez Roux *et al.* 2019). Policy themes of interest included a) social inequalities, social inclusion and poverty, b) urban renewal, revitalization and housing upgrading, c) mobility and transport, d) emissions and pollution control, e) urban safety and violence, and f) regulations, taxation or subsidies affecting food, beverages or tobacco consumption.

Included documents discussed urban policies implemented in one of seventeen Latin American countries (Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, and Venezuela) as a main focus of the document or a section of the document. 'Policy' was broadly conceptualized to include: 'the development, enactment, and implementation of a plan or course of action carried out through law, rule, code, or other mechanism' (Bogenschneider and Corbett 2011). This definition has been useful for previous policy-focused reviews (Purtle *et al.* 2016).

Documents focused on rural areas were excluded. We also excluded documents that were summaries or notes from events or meetings, fact sheets, survey results or databases, executive summaries, press items, and methodological documents or guidelines. Selected document types included policy briefs and bulletins, reports, literature reviews, technical notes, working papers, case studies, and books.

Search strategy

Electronic searches were conducted directly through institutional websites (World Bank 2018, IDB 2018, CAF 2018, UN-Habitat 2018) to identify policy documents (Adams *et al.* 2017). Databases were searched and documents downloaded from December 2018-January 2019. Document titles and abstracts were screened from January-February 2019, and extraction and analysis performed from March-August 2019. Pilot searches were conducted to tailor search syntax and to test multi-lingual (English, Spanish, and Portuguese) capabilities and subsequently account for variation across databases. The search was structured as an advanced search of titles using a core set of 'urban terms,' informed by Medical Subject Headings (MeSH) categories. A title search was selected to limit results to documents with an urban focus, given the large volume of documents available in these databases, as well as to account for challenges in searching grey literature (Adams *et al.* 2017). Title searches could also consistently be applied across sites, whereas other filters (such as topic or keyword) differed across some sites and were lacking in others.

Table 1. Core search terms applied to document titles.

Language	Core Terms[a]	Latin America Terms[b]
English	title: ((urban OR metropolitan OR municipal OR municipality OR neighborhood OR slum))	title: ((Latin America OR South America OR Central America OR Argentina OR Brazil OR Bolivia OR Chile OR Colombia OR Costa Rica OR Ecuador OR El Salvador OR Guatemala OR Honduras OR Mexico OR Nicaragua OR Panama OR Paraguay OR Peru OR Uruguay OR Venezuela))
Spanish Portuguese	title: ((urbano OR urbana OR metropolitano OR metropolitana OR municpio OR municipalidad OR barrio OR asentamiento)) title: (urbano OR urbana OR metropolitano OR metropolitana OR município OR municipalidade OR favela OR bairro OR assentamento))	

[a]Syntax was adapted based on each site's ability to recognize plurals, word forms, gender variations, or language equivalents.
[b]Latin America terms were added for the World Bank's repository due to its global scope.

A core set of search terms (Table 1) applied to document titles was developed in English, Spanish, and Portuguese and modified to accommodate the functionality of each website. For the World Bank's website, Latin America-specific terms were added to narrow results. Due to some websites' search engine limitations (IDB, CAF, and UN-Habitat), searches had to be conducted manually. To facilitate manual searches, an initial filter was applied when topic or subject tags were available, selecting all tags containing 'urban' (i.e. urban innovation, urban infrastructure, urban planning) (IDB 2018, CAF 2018). Table 2 describes the mechanics of each search.

The initial searches returned a total of 664 documents. Duplicate documents, including translated versions of the same document, were eliminated, resulting in 512 documents. When translated versions of the same document were found, the English version was retained for screening. In cases of document translations existing in only Spanish and Portuguese, Spanish was retained for documents with a regional scope and Portuguese was retained for those specific to Brazil. Documents were then screened for inclusion in three stages by two independent reviewers, deferring to a third to resolve any discrepancies.

In the first stage, reviewers screened document titles for relevance to urban policies with the potential to impact health based on the inclusion of at least one term corresponding to themes of interest: 'inequalities,' 'poverty,' 'inclusion,' 'social,' 'housing,' 'upgrading,' 'renewal,' 'revitalization,' 'mobility,' 'transport,' 'emissions,' 'pollution,' 'safety,' 'violence,' 'taxation,' and 'subsidies.' No distinction was made between plural/singular or other forms of the same root word (i.e. 'inclusive,' 'renewing'). Variations of 'equalities,' 'equities,' 'inequities,' 'exclusion,' 'transportation,' 'transit,' and 'taxes' were also considered relevant. This resulted in a total of 139 documents.

In a second stage, the 139 selected documents were evaluated against inclusion criteria and to verify references to urban policies. Reviewers screened abstracts, executive summaries, tables of contents and section headings to confirm agreement with geographic focus and document type restrictions (excluding summaries and notes from meetings or events, fact sheets, survey results or databases, press items, and methodological documents or guidelines). References to urban policies were determined by the presence of a policy term in document abstracts, executive summaries, table of contents or section headings: 'policy,' 'law,' 'legal,' 'legislation,' 'ordinance,' 'statute,' 'regulation,' 'regulatory,' 'code,' 'rule,' 'intervention,' "strategy, 'reform.' Plural forms and derivatives were also accepted (i.e. 'statutes,' 'legislative'). This resulted in a total of 69 documents for extraction. Four additional documents were eliminated at this stage when a complete scan

Table 2. Search strategy applied to each website.

Website	Search Type	Search Strategy	Eligible documents retrieved	Language
CAF http://scioteca.caf.com/	Manual	Selected built-in subject filters that contained 'urban'; retrieved all documents with core search terms in title	52	Spanish
ECLAC http://repositorio.cepal.org/	Electronic	Used advanced search option to build title search using core terms; retrieved all documents	319	English, Spanish, Portuguese
IDB https://publications.iadb.org/	Manual	Selected built-in topic filters that contained 'urban'; retrieved all documents with core search terms in title	157	Spanish
UN-Habitat[a] http://habitat3.org/documents-and-archive/preparatory-documents/policy-papers/	Manual	Retrieved all documents with core search terms in title	10	English
World Bank https://openknowledge.worldbank.org/	Electronic	Used advanced search option to build title search using core terms and Latin American terms; retrieved all documents	126	English

[a]Only papers catalogued as Habitat III outcome papers were included.

revealed they were not grey literature, leaving 65 documents.

Finally, multiple records originating from the same document (i.e., separate chapters or sections such as executive summaries of the same document) were consolidated, resulting in **58** documents for extraction.

Data extraction

Policies and themes

An extraction tool developed by the authors and piloted prior to data collection was used to chart information about the urban policies referenced within each grey literature document (i.e., policy themes), and if and how health was mentioned as a justification for each policy (i.e., health justifications and their domains).

First, documents were reviewed to identify and extract all urban policies. Next, a framework developed by the authors was used to assign each policy to up to two best-aligning policy themes: a) social inequalities, social inclusion and poverty, b) urban renewal, revitalization or housing upgrading, c) mobility and transport, d) emissions and pollution control, e) urban safety and violence, and f) regulations, taxations or subsidies. These themes were qualitatively defined and guided by the SALURBAL project's policy themes (Diez Roux *et al.* 2019) and data domains (Quistberg *et al.* 2019). In many cases, policies were focused on a single theme (e.g., housing policies); however, it was possible for one policy to be assigned to up to two themes (e.g., policies related to social inequalities, social inclusion and poverty; and to urban renewal, revitalization and housing upgrading) (Table 3).

Health justifications

Once policies had been identified and assigned one or two themes, documents were reviewed to identify the health justifications cited for each policy. A health justification was documented if a potential health impact (with health defined broadly to encompass the nine health domains presented in Table 4) was mentioned as motivation or justification for the adoption or implementation of the policy (either directly, by referring to known impacts, or indirectly, by mentioning plausible impacts). A health justification was judged to be present regardless of whether scientific evidence was cited in support of the justification or not. To inform classification, the authors developed a comprehensive list of health domains and associated terms, along with a definition for each domain.

Extractors recorded all unique health justifications discussed in reference to each of the policies identified in the documents, assigning each justification to one health domain. All distinct justifications for each policy were recorded individually, even if multiple justifications were assigned to the same health domain. For example, if a document cited both improvements in basic hygiene as well as the extension of social services as justification for the same policy, these were recorded as two unique health justifications, both falling within the 'health services utilization or access' health domain.

Scientific evidence

Extractors also identified whether scientific evidence (i.e., peer-reviewed literature or specific data from surveys or other reports) was cited in support of health justifications. When a scientific study or formal evaluation of this health impact was referenced, sections relevant to health justifications (and scientific evidence for health impacts) were extracted *verbatim*.

Data analysis

Extracted quantitative information was coded and synthesized in R Studio, with policies as the unit of analysis. For each policy, the policy theme (or themes), the presence (or absence) of health justifications, the numbers and types of distinct justifications, and whether scientific evidence was cited to support each justification was determined.

First, we described the distribution of policies by theme, the proportion of policies that invoked a health

Table 3. Definitions of policy themes.

Policy theme	Definition	Abbreviation
Social inequalities, social inclusion and poverty	Policies related to economic or social inequalities, poverty, income, employment, education, gender or ethnic inclusion, social cohesion or social capital	Social Inequality
Urban renewal, revitalization or housing upgrading	Polices related to housing or neighborhood policies or interventions including housing improvements and tenure, water and sanitation, as well as physical or social neighborhood interventions	Urban Renewal
Mobility and Transport	Policies related to transit development or regulations, transport systems and infrastructure, such as bus rapid transit, train or light rail transport, aerial trams, and bicycle and pedestrian infrastructure	Mobil./Trans.
Emissions and Pollution Control	Policies related to greenhouse gas emissions or air pollution, including emissions control, motorized vehicle restrictions, and air pollution regulation and monitoring	Emiss./Pollution
Urban Safety and Violence	Policies related to safety, interpersonal violence, and violent crime	Urban Safety
Regulations, Taxations or Subsidies	Policies related to incentives for behavioral change, such as taxation or advertising and sale restrictions related to food, beverages, alcohol, tobacco use or drugs; regulations or subsidies aimed at consumer information (food labelling) or supply-side factors (subsidies for fruit and vegetable markets)	Reg./Tax/Sub.

Table 4. Health domains, definitions and associated terms.

Health domain	Definition	Associated terms
General health	Health as an overall concept or state, without reference to specific conditions or causes	Self-reported health, health status, improvements in health, health conditions, health outcomes
Health equity	Fair and just opportunities to achieve the best possible state of health, including removing structural obstacles to health	Equities/inequities, equality/inequality, vulnerability, disadvantage, disparities
Health services utilization or access	Policies or actions delivered through healthcare systems	Health services, healthcare, preventative care, vaccination
Mortality	Causes of death	Mortality, death, life expectancy
Physical health	Ill-health or disability due to noncommunicable diseases, communicable diseases, external causes, perinatal complications or other physical conditions	Morbidity, disease, illness, disability, chronic disease, infectious disease, noncommunicable disease, communicable disease, cardiovascular disease, cancer, respiratory disease, violence, injuries, accidents
Mental health	Ill-health or disability from conditions related to psychological or social functioning, emotion or behavior regulation, or general well-being	Mental, psychological, depression, anxiety, stress
Health-related behaviors	Behaviors known to be linked to health	Lifestyle, diet, nutrition, physical activity, sexual and reproductive health, exercise, tobacco, smoking, drugs, substance use, alcohol, drinking
Other risk factors	Biological or biomedical factors linked to health	Obesity, diabetes, hypertension
Other general measures	General measures that are not health specific, but may be linked to health	Well-being, quality of life, life satisfaction, social cohesion

justification within each theme, and the percent of health justifications that cited scientific evidence. Second, we investigated the specific health domains cited as justification among the policies that invoked any health justification, for the full set of policies, and by policy theme. Third, we explored the subset of health justifications that cited scientific evidence, again overall and by policy theme. Results from the second and third steps are complemented by a narrative summary citing representative examples (Arksey and O'Malley 2005, Hartling *et al.* 2012).

Results

Policies and themes

A total of 58 documents were included in our sample (Urban transport in the Era Economic Commission for Latin America and the Caribbean. 1997, Lacy *et al.* 1998, 2002, 2006, 2019, Conciencia ciudana y contaminacion atmosferica 2000, Ghisolfo 2001, Dooner and Montero 2001, Thomson 2002, Chaparro 2002, Motta 2002, Brakarz *et al.* 2002, Balbo *et al.* 2003, Foster 2003, Mac Donald 2003, 2005, Sunkel 2003, Rajack and Shrikant 2004, Iizuka 2004, Ruedi *et al.* 2004, Brunstein 2004, Baker 2005, Saúle Júnior 2005, Maldonado 2005, Soto 2005, 2008, Herzer 2005, Curcio 2005, Morales 2005, Flores 2005, Glejberman 2005, Cortés Castellanos 2005, Saborido 2005, Bercovich 2005, Rodríguez 2005a, 2005b, Gómez and Geffner 2006, Díaz Cayeros 2006, Simioni and Szalachman 2007, Cetrángolo 2007, Kessler and Mercedes 2008, Pardo 2008, 2009, Jordán and Martínez 2009, CAF. 2009, Quartesan and Lanzafame 2009, Pérez and Ricardo 2010, González Alcocer *et al.* 2010, Alcântara Vasconcellos 2010, Scholl *et al.* 2013, IDB 2014, Canales and Jordán Fuchs 2014, CAF 2017, Díaz 2017, Libertun de Duren 2017, Acevedo *et al.* 2017, Nieves Rico and Segovia 2017, UN-Habitat 2017, Hansz and Rubinstein da Silva 2018). These documents referred to a total of 80 urban policies. Of the 80 policies, 57 (71.3%) were assigned to one policy theme and 23 (28.7%) were assigned to two themes. The distribution across themes was as follows (with the 23 policies assigned to two themes counted twice): 43 policies focused on social inequalities, social inclusion and poverty; 32 on urban renewal, revitalization and housing upgrading policies; 17 on mobility and transport; five on emissions and pollution control; two on urban safety and violence; one on regulations, taxations or subsidies; and three on other themes (such as macroeconomic policy, decentralization of governance, and employment policy). The most common combinations of themes were social inequalities, social inclusion and poverty with urban renewal, revitalization and housing upgrading (15 policies), and social inequalities, social inclusion and poverty with mobility and transport (five policies).

Figure 1 shows the distribution of policies across single and multiple themes.

Health justifications

Of the 80 unique policies reviewed, 37 (46.3%) referred to at least one health domain as justification. Of the 37 policies with at least one health justification, 14 indicated one justification, 10 referred to two, nine to three, and four referenced four unique health justifications. In total, 77 distinct health justifications were referenced in relation to the 37 policies. The percent of policies with at least one health justification varied across policy themes: it was 51.2% for social inequalities, social inclusion, and poverty; 37.5% for urban renewal, revitalization and housing upgrading; and 35.3% for mobility and transport. All emissions and pollution control and urban safety and violence policies referred at least one health justification, but the number of policies assigned to these themes was low. Regulations/taxations and subsidies cited no heath

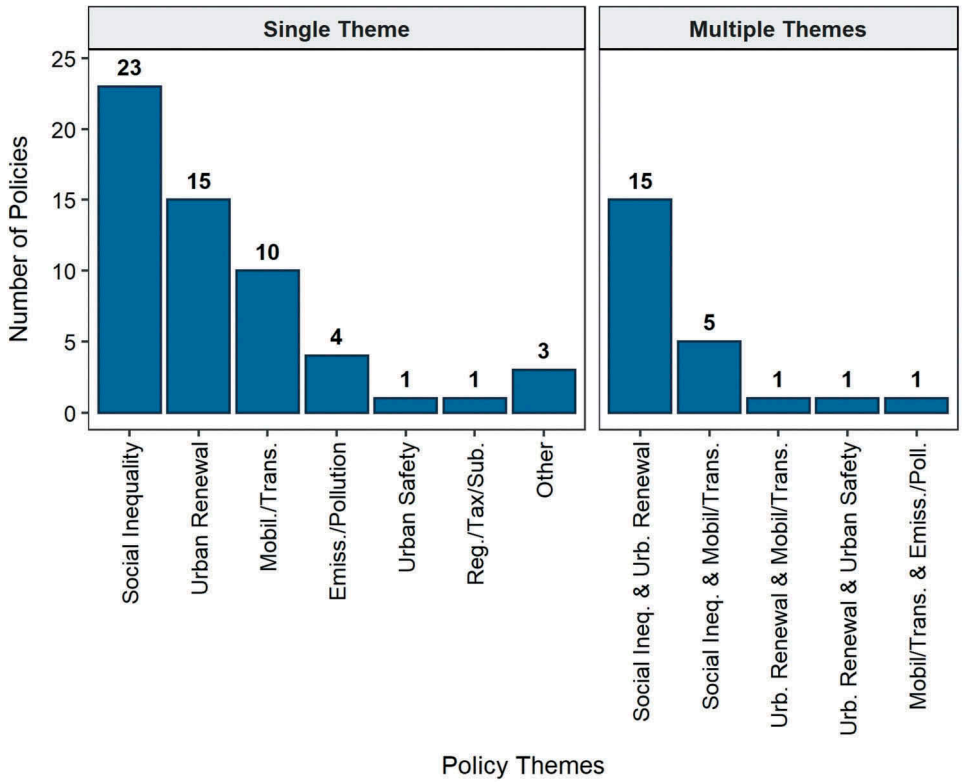

Figure 1. Urban policies assigned to single and multiple policy themes.

justifications, but the number of policies in this theme was also low (Table 5).

The median number of health justifications from any health domain varied across policy themes, with the highest value observed for policies focused on urban safety and violence (median of 3.5 justifications), and for policies in the urban renewal, revitalization and housing upgrading theme (median of 2.5 justifications). Among the 77 health justifications identified, 17 (22.1%) were classified as health services utilization or access justifications, 14 (18.2%) as physical health, 14 (18.2%) as other general measures, and 13 (16.9%) as general health. Nine (11.7%) justifications referred to health-related behaviors, seven (9.1%) to health equity, and only three (3.9%) to mortality. The mental health and other risk factors domains were not used in any justifications.

The distribution of health domains used in the justifications varied by policy theme. Health justifications for social inequalities, social inclusion and poverty policies encompassed multiple domains, with the most common being the health services domain, followed by health-related behaviors. Urban renewal, revitalization and housing upgrading policies also used multiple domains as justifications, most commonly citing the other general measures domain, followed closely by the general health and health services utilization or access domains. Mobility and transport policies referenced physical health as the most common justification. Emissions and pollution control policies most commonly referenced general health, followed by physical health. Other themes cited a range of domains, but the number of policies reviewed was low (Figure 2).

Table 5 presents the distribution of health justifications by domain and within policy themes among the 37 policies referencing at least one health justification.

As presented in Figure 2 and Table 5, the general health domain was used in 16.9% of all justifications, most commonly in relation to social inequalities, social inclusion and poverty policies (Brakarz *et al.* 2002, Mac Donald 2003, Sunkel 2003, Baker 2005, Jordán and Martínez 2009, UN-Habitat 2017); urban renewal, revitalization and housing upgrading policies (Brakarz *et al.* 2002, Baker 2005, Morales 2005, UN-Habitat 2017); and emissions and pollution control policies (Lacy *et al.* 2000, Dooner and Montero 2001, Brunstein 2004). It was also used in one policy targeting urban renewal, revitalization and housing together with urban safety and violence (González Alcocer *et al.* 2010).

The health equity domain was used in 9.1% of all justifications and almost exclusively linked to social inequalities, social inclusion and poverty policies. It was most often discussed in relation to improving health or conditions for health (e.g., food security, healthy behaviors) among vulnerable populations of children and adolescents (Curcio 2005, Morales 2005, Jordán and Martínez 2009) and in relation to health programs targeting low resource, excluded, low income or high risks populations (Flores 2005) (Glejberman 2005) (Mac Donald 2003). Health equity

Table 5. Distribution of health justifications by domain within policy themes among 37 distinct policies that invoke at least one health justification.

Policy theme	Social inequalities, social inclusion and poverty	Urban renewal, revitalization and housing upgrading	Mobility and transport	Emissions and pollution control	Urban safety and violence	Regulations, taxation or subsidies	Other	Total
N policies with at least one heath justification (as % of policies within theme)	22 (51.2)	12 (37.5)	6 (35.3)	5 (100)	2 (100)	0 (0)	2 (66.7)	37[a] (46.3% of all policies)
Median (min-max) justifications identified per policy	2 (1–4)	3 (1–4)	1 (1–4)	1 (1–4)	3.5 (3–4)	NA	1.5 (1–2)	2 (1–4)
N health justifications	49	30	10	10	7	0	3	77[b]
N justifications assigned to **general health domain** (as % of justifications within policy theme)	7 (14.3)	7 (23.3)	0 (0)	4 (40)	1 (14.3)	0 (NA)	0 (0)	13 (16.9% of all justifications) rank: 4
N justifications assigned to **health equity domain** (as % of justifications within policy theme)	6 (12.2)	0 (0)	0 (0)	0 (0)	1 (14.3)	0 (NA)	0 (0)	7 (9.1% of all justifications) rank: 6
N justifications assigned to **health services utilization or access domain** (as % of justifications within policy theme)	13 (26.5)	7 (23.3)	1 (10)	1 (10)	1 (14.3)	0 (NA)	1 (33.3)	17 (22.1% of all justifications) rank: 1
N justifications assigned to **mortality domain** (as % of justifications within policy theme)	3 (6.1)	0(0)	0 (0)	0 (0)	0 (0)	0 (NA)	0 (0)	3 (3.9% of all justifications) rank: 7
N justifications assigned to **physical health domain** (as % of justifications within policy theme)	5(10.2)	5 (16.7)	6 (60)	3 (30)	2 (28.6)	0 (NA)	1 (33.3)	14 (18.2% of all justifications) rank: tied for 2
N justifications assigned to **mental health domain** (as % of justifications within policy theme)	0	0 (0)	0 (0)	0 (0)	0 (0)	0 (NA)	0 (0)	0 (0% of all justifications)
N justifications assigned to **health-related behaviors domain** (as % of justifications within policy theme)	8 (16.3)	3 (10)	1 (10)	0 (0)	1 (14.3)	0 (NA)	0 (0)	9 (11.7% of all justifications) rank: 5
N justifications assigned to **other risk factors domain** (as % of justifications within policy theme)	0(0)	0(0)	0(0)	0 (0)	0 (0)	0 (NA)	0 (0)	0 (0% of all justifications)
N justifications assigned to **other general measures** (as % of justifications within policy theme)	7 (14.3)	8 (26.7)	2 (20)	2 (20)	1 (14.3)	0 (NA)	1 (33.3)	14 (18.2% of all justifications) rank: tied for 2

[a]A policy can be classified within up to two policy themes.
[b]77 unique health justifications were identified across all policies. For policies assigned to two themes, corresponding health justifications are repeated under both policy themes.

was also discussed in relation to policies developed to address gender-based violence (Balbo *et al.* 2003).

Health services utilization was the most common domain used in justifications (22.1%) and was linked to all policy themes citing health justifications, most commonly related to social inclusion and poverty policies. References to this domain included discussions of guaranteeing or expanding health services provision, coverage and access (Sunkel 2003, Curcio 2005, Flores 2005, Cortés Castellanos 2005, Gómez and Geffner 2006, Quartesan and Lanzafame 2009, Nieves Rico and Segovia 2017); expanding essential urban services (Glejberman 2005); developing health infrastructure (Flores 2005) or health facilities (Jordán and Martínez 2009); and investing in health systems schemes and financing (Maldonado 2005). Health services utilization or access was also commonly mentioned in reference to urban renewal, revitalization, and housing upgrading policies and discussed in reference to expanding health services infrastructure and service delivery in neighborhoods (Baker 2005, Rodríguez 2005b, Quartesan and Lanzafame 2009, González Alcocer *et al.* 2010, Nieves Rico and Segovia 2017, UN-Habitat 2017).

Mortality was the least common domain of those domains presenting justifications and was used in only 3.9% of justifications. It was always discussed in the context of social inequalities, social inclusion and

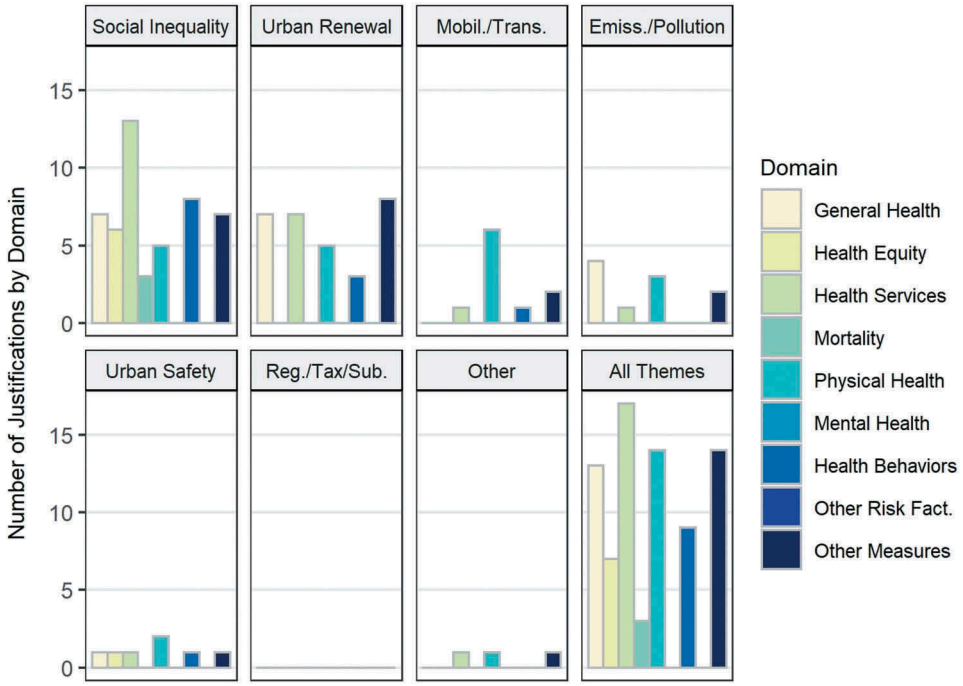

Figure 2. Distribution of health justifications by domain across policy themes.

poverty policies. Specific references to this domain included discussions of policy impacts on maternal and infant mortality (Glejberman 2005), infant mortality (Cortés Castellanos 2005), and neonatal, postnatal and under-five mortality (Maldonado 2005).

Physical health was discussed in 18.2% of justifications. All policy themes with any health justifications claimed at least one physical health justification. Mobility and transport policies had the highest number of physical health justifications, followed by social inequalities, social inclusion and poverty; and urban renewal, revitalization and housing upgrading policies. Physical health outcomes discussed included injuries (in mobility and transport policies (Chaparro 2002, Motta 2002) as well as emissions and pollution control policies (Motta 2002)), and violence (in cases of urban renewal, revitalization and housing upgrading (Brakarz *et al.* 2002, Balbo *et al.* 2003, Baker 2005, UN-Habitat 2017) and in social inequalities, social inclusion and poverty policies (Balbo *et al.* 2003, Baker 2005, UN-Habitat 2017)). Risks of infectious diseases linked to sanitary conditions were referenced in relation to one urban renewal, revitalization and housing upgrading policy (Brakarz *et al.* 2002), and respiratory diseases were linked to one policy assigned to the mobility and transport and social inequalities, social inclusion and poverty policy themes (Díaz 2017).

The health-related behaviors domain was discussed in 11.7% of all justifications, most often in reference to social inequalities, social inclusion and poverty; and urban renewal, revitalization and housing upgrading policies. Justifications for this domain tended to focus on improving nutrition, both for children (Baker 2005, Nieves Rico and Segovia 2017) and the population as a whole (Curcio 2005, Flores 2005) and relate to social inequalities, social inclusion and poverty (Baker 2005, Morales 2005, Nieves Rico and Segovia 2017) and urban renewal, revitalization and housing upgrading policies (Baker 2005, Morales 2005, Nieves Rico and Segovia 2017). Two policies assigned to the social inequalities, social inclusion and poverty and urban renewal, revitalization and housing upgrading themes also invoked justifications of promoting sexual and reproductive health to reduce adolescent pregnancy (Morales 2005, Rodríguez 2005b), and one urban safety and violence policy focused on social interventions to prevent drug use (Balbo *et al.* 2003). One mobility and transport policy focused on the positive health impacts associated with the promotion of cycling among women (Díaz 2017).

Other general measures (e.g. quality of life and social cohesion) were discussed in 18.2% of justifications, most commonly in reference to policies focused on urban renewal, revitalization and housing upgrading and social inequalities, social inclusion and poverty. However, all policy themes with any justifications cited at least one other general measures justification. Quality of life was the most common outcome, invoked for urban renewal, revitalization and housing upgrading (Rodríguez 2005b, Nieves Rico and Segovia 2017); social inequalities, social inclusion and poverty (Mac Donald 2005, Cortés Castellanos 2005, Rodríguez 2005b, Nieves Rico and Segovia 2017); mobility and transport (Thomson 2002); and emissions and pollution control (Lacy *et al.* 2000). One other general measures justification specifically addressed quality of life for women (Morales 2005). Two additional justifications in this domain were framed as social cohesion (Morales 2005).

Scientific evidence

Of the 37 unique policies with at least one health domain justification, only seven policies (18.9%) cited scientific evidence in reference to a justification. Of the 77 unique health justifications, eight (10.4%) cited scientific evidence. Only one of these cases (1.3% of all justifications) referred to a peer-reviewed publication (Díaz 2017); other evidence cited referred to government surveys or data provided by international cooperation agencies and non-profits. Only seven of the 58 documents in our sample (12.1%) mentioned a health justification and corresponding scientific evidence.

Table 6 describes the use of scientific evidence in health justifications overall and within policy themes. Small numbers make comparisons difficult, but in general, the percent of health justifications that cited scientific evidence was higher for mobility and transport and emissions and pollution control policies than for other policy themes. Notably, none of the health justifications in the urban safety and violence and the 'other' policy category referred to scientific evidence, although only two justifications were found within each category. (The regulations, taxation or subsidies category had no health justifications at all.)

Table 7 presents the number and proportion of health justifications citing scientific evidence within each health domain. Small numbers make comparisons difficult, but in general, mortality justifications were more likely to cite scientific evidence than other types of justifications.

Of 13 justifications within the general health domain, only one (7.7%) cited scientific evidence; specifically, a household survey was referenced to support associations between water and sanitation outcomes and improvements in health (Jordán and Martínez 2009). Of 17 justifications related to health services utilization or access, only one (5.9%) cited scientific evidence. This evidence came from a report analyzing coverage trends for prenatal care and assisted births with reductions in infant mortality in Colombia (Maldonado 2005). Two of the three health justifications within the mortality domain cited scientific evidence. Citations included the same report from Colombia that explored health system drivers of infant mortality and trends over time (Maldonado 2005) and a report using data from the Chilean government analyzing trends in infant mortality related to poverty reduction policies (Cortés Castellanos 2005).

Of 14 health justifications related to physical health, only two (14.3%) cited scientific evidence. A mobility and transport and emissions and pollution control policy cited an evaluation conducted by the city of São Paulo regarding speed and traffic accidents (Motta 2002). A policy classified under the mobility and transport and social inequalities, social inclusion and poverty themes cited a peer-reviewed study on the health benefits of increased physical activity (Díaz 2017). A study carried out by the Mexican Secretariat of Health examining associations between ozone levels and health outcomes was used to justify the health impact of an emissions and pollution control policy (Conciencia ciudana y contaminacion 2000).

Of nine justifications within the health-related behaviors domain, only one (11.1%) cited scientific evidence. This justification referenced a study on improvements in physical activity and resulting health benefits associated with policies promoting cycling among women (Díaz 2017). Of 14 justifications using other general measures, only one (7.1%) cited scientific evidence – specifically, a survey of employee quality of life in Mexico (Nieves Rico and Segovia 2017). No evidence was cited to support the seven unique health equity justifications identified across six documents (Mac Donald 2003, Maldonado 2005, Curcio 2005, Glejberman 2005, Cortés Castellanos 2005, Jordán and Martínez 2009).

Table 6. Distribution of health justifications citing scientific evidence by policy theme.

Policy theme	Social inequalities, social inclusion and poverty	Urban renewal, revitalization and housing upgrading	Mobility and transport	Emissions and pollution control	Urban safety and violence	Regulations, taxation or subsidies	Other	Total
N health justifications	49	30	10	10	7	0	3	77[a]
N health justifications with scientific evidence cited (% of total justifications)	6 (12.2)	1 (3.3)	2 (20)	2 (20)	0 (0)	0 (NA)	0 (0)	8 (10.4)

[a]77 unique health justifications were identified across all policies. For policies assigned to two themes, corresponding health justifications are repeated under both policy themes.

Table 7. Distribution of heath justifications citing scientific evidence by health domain.

Health Domain	General health	Health equity	Health services utilization or access	Mortality	Physical health	Mental health	Health-related behaviors	Other risk factors	Other general measures	Total
N health justifications in this domain (all policies)	13	7	17	3	14	0	9	0	14	77
N of these justifications citing scientific evidence (as %)	1 (7.7)	0 (0)	1 (5.9)	2 (66.7)	2 (14.3)	0 (NA)	1 (11.1)	0 (NA)	1 (7.1)	8 (10.4)

Discussion

The results of this study provide insight regarding the use of health as an argument for justifying urban policies in Latin America as reflected in documents produced by several international organizations. Overall, the use of health arguments to justify urban policies in Latin America remains limited. Some types of policies that we identified appeared more likely to incorporate an explicit health argument than others, but in general, health arguments supporting urban policies were generic and underdeveloped. Even when policies were discussed in connection with specific health outcomes, scientific evidence was almost never cited to support these linkages. This suggests that more work is needed to understand and address the barriers to the integration of knowledge about the health impacts of urban environments throughout policy-making processes.

In our review of 58 documents from international organizations, we identified 80 distinct urban policies. Most policies found in our sample were assigned to the social inequalities, social inclusion and poverty; urban renewal, revitalization and housing upgrading; and mobility and transport policy themes. Of the 80 policies identified, nearly half (37) referred to at least one health domain as justification. This proportion varied across policy themes (about 50% for social inequalities, social inclusion and poverty; 35-40% for urban renewal, revitalization and housing upgrading and mobility and transport; and 0% for regulations, taxation or subsidies). All emissions and pollution control and urban safety and violence policies referred to at least one health justification, but the number of policies assigned to these themes was very low.

The most common domains used as health justifications were health services utilization or access; physical health; and other general measures (each accounting for about 1/5 of justifications). Behavioral changes and health equity were less frequently cited (about 1/10 of justifications each). Mortality justifications were rare and mental health and risk factors were never cited as justifications. Notably, only about 10% of health justifications cited any sort of scientific evidence in support of the potential health impact. Mortality was the domain for which citations of scientific evidence were most common (2 out of 3) but the numbers were very small.

The types of policies identified in our review and their distribution by theme is approximately consistent with the urban policy priorities identified by both grey (Stampini and Tornarolli 2012, Economic Commission for Latin America and the Caribbean 2019) and peer-reviewed (Lavinas 2015, Cord *et al.* 2015) literature focused on Latin America. Nevertheless, the proportion of policies citing health as a potential justification varied across themes. One potential explanation for the more frequent health justifications in the social inequalities policy theme (about half) is that many interventions falling within this theme, particularly conditional cash transfers, are designed to be integrated with health services (de Britto 2008, Stampini and Tornarolli 2012). The very high frequency of health justifications in the emissions and pollution and urban and safety and violence themes may be a chance finding (due to the small number of these policies in our review) or may be related to the clear health connections often associated with these themes (e.g. respiratory problems, interpersonal violence) (Orellano *et al.* 2018, Canudas-Romo and Aburto 2019).

Less than half of the policies assigned to the urban renewal, revitalization and housing upgrading and mobility and transport themes were associated with a health justification. This might suggest that despite a scientific evidence base supporting the health benefits of policy interventions – such as those related to the upgrading of informal settlements or implementation of bus rapid transit systems (Turley *et al.* 2013, Lemoine *et al.* 2016) – the potential for these policies to improve diverse areas of health has yet to be fully recognized within the discussions surrounding these policies. Notably, the regulation, taxation or subsidies policies cited no health justifications at all. The low frequency of health justifications in these themes is consistent with previous research regarding policymakers' evidence preferences, which have shown a tendency to favor data on the economic impact of policies (Niessen *et al.* 2012, Purtle *et al.* 2018).

Most commonly, health justifications were related to health services utilization or access; general health; physical health; and other general health measures. The dominance of justifications falling within the health services utilization or access domain in our sample is aligned with the emphasis on healthcare persistent throughout many discussions of population health (Khanal and Bhattarai 2016, de Leeuw 2017). At least one justification falling within the health services and physical health domains – traditionally related to health as a construct of healthcare – was observed for every policy theme presenting justifications. Health equity and behavioral factors were uncommon justifications and mental health or risk factors justifications (despite their important health implications) were not referenced at all. In Latin America, access to healthcare remains a challenge for many populations. This may contribute to a sustained focus and efforts centered on a narrow set of healthcare-related outcomes. However, growing understanding of how urban policies may affect a much broader set of health outcomes through social and environmental factors (not just through healthcare) remains an important need. More generally, our results suggest that the wide-ranging health impacts connected to policies and the mechanisms through which policies could promote

health are not sufficiently understood. What academic understanding of these connections does exist does not appear to be effectively translated into policy-making discussions.

The almost negligible quantity of scientific evidence cited in our sample of literature (only 10% of the health justifications cited any type of scientific evidence) may be explained by multiple factors. It is possible that the lack of scientific citations merely reflects the nature of the types of documents we reviewed, in which the citation of scientific evidence is not commonplace. A review of policy documents produced by a broader set of actors (not just select international organizations) may reveal more references to specific evidence. On the other hand, the lack of citations may indicate a lack of evidence of the health impacts of urban policies, or a lack of awareness of this evidence and how to use it among policy makers and policy advocates. It also suggests a lack of integration between public health research and urban policy, with urban health experts and relevant evidence often absent when city planning discussions and decisions take place.

Despite abundant evidence of the connections between urban policies and health, the process of translating research results into practice within multiple sectors and at multiple levels of urban planning is not fully understood (Harris *et al.* 2015). Generally, a lack of effective translation of research findings to policy-making has been well-documented both globally (Sallis *et al.* 2016, Mayne *et al.* 2018) and in Latin America specifically (Caiaffa *et al.* 2014, Rabadán-Diehl 2017). Barriers to this translation can arise from issues related to knowledge production, communication, and policy-making processes themselves, and as a result of the complex pathways through which knowledge can inform policy (Weiss 1979).

Our study relied upon a systematic protocol informed by best practices for scoping reviews, and employed a broad search designed to capture policy-relevant documents with a primary focus on urban policy thematic areas with demonstrated links to health. The documents returned by our search, as is the case with grey literature, were heterogenous in nature. For example, some documents were several hundred pages in length while others were bulletins or shorter technical notes, and varied in terms of structure, audience, and purpose. Therefore, the presence of a health justification or the number of domains identified cannot be considered independently of document type. For this reason, our findings are useful for describing patterns within a sample of literature but may not be generalizable to other types of documents.

A focus on documents produced by international organizations also presents important limitations. Government documents and documents from other policy-oriented groups (including non-governmental organizations) were all excluded from this review. In addition, it is possible that health considerations did inform the policies mentioned in the documents we reviewed but that the nature of the documents was such that these types of considerations (and the evidence supporting them) were not explicitly noted. Finally, we did not examine or analyze the urban policies themselves, nor did we attempt to determine what factors influence the presence of a health argument in the context of urban policy, as has been undertaken elsewhere (Baum *et al.* 2018). This type of policy analysis presents a potential next step for Latin America and for other regions.

This scoping review is among the first to systematically examine if and how Latin American urban policies are discussed in relation to health in policy-relevant documents, and we are unaware of similar studies focusing on other regions. Our findings suggest that Latin American cities need to explore ways to effectively connect urban health experts and evidence to urban planning and other urban policy-relevant sectors, so that knowledge about health and the impacts of policies on urban health effectively drive decision-making, and so that health research can better respond to policymakers' needs.

Our findings are also consistent with the notion that health is often underrecognized in urban policy agendas (Guidotti 2018). There is a need to connect urban policy, sustainability and urban health agendas in order to support urban policies that simultaneously promote health, health equity, and environmental sustainability (World Health Organization 2016). The research community can play a critical role in improving the translation of knowledge into urban policy, by designing and conducting research with explicit relevance to policy concerns, by engaging more directly with policy processes, and by identifying windows of opportunity for the presentation of results to decision-makers. Policymakers should establish regular instances to request and review input from the research community on policy discussions and impact evaluations, and should incorporate an explicit Health in All Policies approach. Researchers, public servants, and other stakeholders can implement capacity building activities so that policymakers and their teams are able to source, interpret, and apply relevant scientific knowledge (Sallis *et al.* 2016, Mayne *et al.* 2018).

In summary, our review of international urban policy documents for the Latin American region found that although health was mentioned as a justification in about half of all observed policies, these justifications tended to be generic, focused on healthcare, underdeveloped, and/or unfounded in scientific evidence. Our findings highlight the need to make policymakers aware of the potential health impacts of a range of urban policies and of already existing evidence of these connections. They also suggest a need to generate

additional scientific evidence of the health impacts of urban policies, and to disseminate that evidence more broadly and effectively, identifying strategies that connect knowledge producers with decision makers throughout the policy design and implementation process.

Acknowledgements

Ricardo Jordán, Marina Gosselin, John Bartlett, Nicholas Ebert, Marisol Saborido, Lídia Maria de Oliveira Morais, Alejandra Vives, Mariana Melo, José Siri, Anne Dorothée Slovic, Alejandra Vives, Eliana Martínez, Diego Lucumi, Nelson Gouveia, Carolina Perez, Catalina Gonzalez, Brent Langellier

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

The Salud Urbana en América Latina (SALURBAL)/Urban Health in Latin America project is funded by the Wellcome Trust [205177/Z/16/Z].

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Salud Urbana en América Latina (SALURBAL)/Urban Health in Latin America is a five-year project that studies how urban environments and urban policies impact the health of city residents and environmental sustainability throughout Latin America. SALURBAL's findings inform policies and interventions to create healthier, more equitable, and more sustainable cities worldwide. Learn more at www.lacurbanhealth.org.

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