

# Healthy cities after COVID-19 pandemic: the just ecofeminist healthy cities approach

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## ABSTRACT

The COVID-19 pandemic crisis has compromised the 'healthy cities' vision, as it has unveiled the need to give more prominence to caring tasks while addressing intersectional social inequities and environmental injustices. However, much-needed transdisciplinary approaches to study and address post-COVID-19 healthy cities challenges and agendas have been scarce so far. To address this gap, we propose a 'just ecofeminist healthy cities' research approach, which would be informed by the caring city, environmental justice, just ecofeminist sustainability and the healthy cities paradigms and research fields. Our proposed approach aims to achieve the highest standards of human health possible for the whole population—yet putting the health of socially underprivileged residents in the centre—through preserving and/or improving the existing physical, social and political environment. Importantly, the proposed approach recognises all spheres of daily life (productive, reproductive, personal and political) and their connections with inequities, justice and power dynamics. Last, the just ecofeminist healthy cities approach understands human health as interconnected with the health of non-human animals and the ecosystem. We illustrate the proposed new approach focusing on the implications for women's health and public green spaces research and propose principles and practices for its operationalisation.

## INTRODUCTION

Apart from emerging as a public health crisis with significant impacts on the mental and physical health of urban residents all over the world, the COVID-19 pandemic has also prompted a social and economic crisis.<sup>1</sup> COVID-19 suddenly propelled health to the very daily centre of our lives, making us all realise how dependent our health is on the health of others and also on the health of the planet.<sup>2</sup> So the crisis has unravelled and reaffirmed the relevance of the planetary and ecohealth approaches (both with public health and environmental sciences as core contributing sciences)<sup>3</sup> for safeguarding health. The pandemic has also highlighted the importance of reformulating the current 'healthy cities' paradigm (ie, the movement centred on the improvement of health via the social determinants of health, including—eg—the socioeconomic position and urban physical living conditions).<sup>4 5</sup> So the COVID-19 pandemic has visibilised the fundamental role of care work in our societies.<sup>6 7</sup> It has also uncovered the importance of addressing intersectional social inequities

and environmental injustices to create more just, liveable, sustainable and healthy cities for all.<sup>1 8</sup>

Care work, understood as those tasks accomplished in order to look after ourselves, others and the environment,<sup>7 9</sup> has been one of the material and emotional dimensions most impacted and valued during the pandemic.<sup>7</sup> During the pandemic all of us (and particularly low-income racialised women) have experienced an increase in our responsibilities to provide assistance, shopping or cooking for sick or disabled parents, friends or relatives, checking on neighbours, caring for pets, home schooling, and, of course, treating and attending to the health needs of COVID-19-impacted patients and their families.<sup>7</sup> The exacerbation of caring tasks has been to such a degree that we have been forced to re-evaluate our ability and commitments to the productive, reproductive, personal and political spheres of daily life.<sup>7 10</sup>

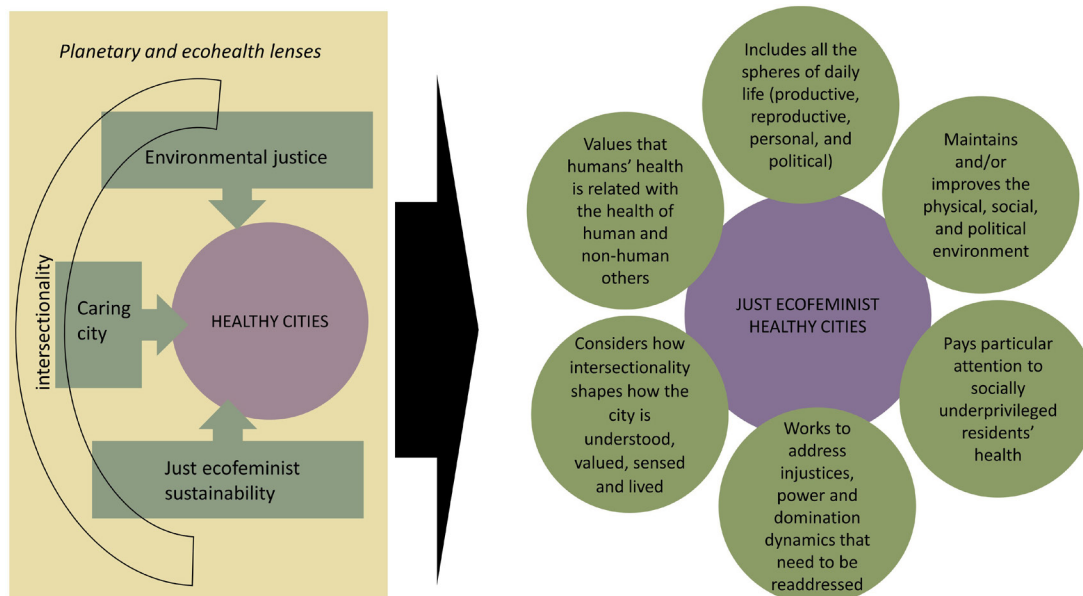
The pandemic has also aggravated or created new contexts of intersectional social inequities.<sup>8 11</sup> By intersectional, we refer to the multiple axes of identity such as gender, race/ethnicity, class, disability, sexual identity or migration status that intersect and overlap creating susceptibility to differentiated oppressions and social (under)privileges.<sup>11 12</sup> For example, economic and gender axes of inequalities have been exacerbated by the pandemic because at the population level—due to high job insecurity and lower pay conditions—women and other marginalised gender groups have less capacity to face the COVID-19-related economic recession.<sup>6</sup> This inequity has been exacerbated by women being more likely to be forced to leave their paid jobs due to heavier care responsibilities.<sup>6</sup> Moreover, the economic sectors most affected by the pandemic economic crisis (eg, retail, tourism or restaurants) are highly feminised.<sup>1 6</sup> Last, the workers more exposed and infected by COVID-19 have been the essential service workers (eg, public transit, food store or hospital workers), many professions of which are both heavily feminised and marked by racial/ethnic and economic inequalities (eg, nurses, cleaners and caregivers for the elderly).<sup>1 6 11 13</sup>

The pandemic has also visibilised urban environmental injustices originating from the fact that cities have been traditionally planned around the needs of groups in power (usually middle-class white men with a full-time employment), (re-)producing segregation, exclusion and new types of environmental privilege.<sup>10 13</sup> Environmental injustices concern the unequal exposure to environmental risks and contamination as well as unequal access to environmental amenities that socially underprivileged groups experience.<sup>14</sup> For example,



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**Figure 1** The Just Ecofeminist Healthy Cities framework. On the left side, the traditional health cities paradigm and the informing concepts we bring into our proposed framework. On the right hand, the detailed presentation of the just ecofeminist healthy city framework.

during confinements in particular, urban residents—especially those having to live in cramped housing conditions—struggled to maintain their psychological health, a challenge made more obvious since most activities from different spheres of daily life were taking place at home.<sup>15</sup> In contrast, higher-income residents were able to spend confinement time in high quality housing with access to public and/or private quality public green spaces (such as parks, riversides or urban gardens) or to escape to their second homes (often located in the countryside or on the coast).<sup>8 16</sup> Even in areas without strict confinement policies, factors such as school cancellations, loss of employment, increased care responsibilities, public campaigns to ‘stay home’, and even work from home policies have kept many people closer to home. This increase of time spent closer to residence has reinforced the value and the unequal availability of neighbourhood public and private urban spaces for accessing some level of basic recreation, socialisation, physical activity or access to nature and, consequently, broadening health inequities.<sup>17</sup> These unjust situations have not been considered or counteracted with the temporary top-down solutions that some cities have implemented such as tactical urbanism or temporary street closures to increase pedestrian space.<sup>17</sup> All in all, those COVID-produced sociospatial reconfigurations have exacerbated and created new environmental injustices.<sup>18</sup>

Different scientific fields have explored and hypothesised how COVID-19 affects their discipline since the pandemic outbreak.<sup>7 8 17-19</sup> However, to our knowledge, much-needed trans-disciplinary approaches to study and address post-COVID-19 healthy cities challenges and agendas have been scarce so far. We refer here to knowledge from fields such as urban public health, environmental sciences, feminist studies, geography and urban planning. In this essay, we fill this gap by proposing a new scholarly approach for achieving a post-COVID healthy cities agenda which, building on those different fields, can better incorporate care, intersectional social inequalities and environmental justice. Moreover, to depict the practical research implications of our proposed approach, we finish this essay zooming in on the relationship between public green spaces and women’s health.

### The just ecofeminist healthy cities approach

Our proposal to incorporate care, intersectional social inequalities and environmental justice to the healthy cities approach is inspired by a diversity of complementary disciplines. The ‘healthy cities’ movement emphasises equity, participatory governance and solidarity (ie, explicit political commitment, leadership and institutional change), and intersectoral partnerships with public, private, voluntary and community organisations.<sup>4</sup> However, despite that the healthy cities movement refers to goals such as ‘sustainable development’, ‘conservation of resources and environmental health’ and ‘ecosystems that are stable now and sustainable in the long term’, its approach has been mainly at the local scale and focusing on the existing city population.<sup>4 20</sup> Similarly—despite that justice, equality and equity are interrelated concepts—the focus on equity in healthy cities is underdeveloped and rooted in equality rather than on a deeper understandings of justice. Moreover, the healthy cities movement has been tackling social determinants of health but rarely using intersectional lenses or focusing on care.

In contrast, the emerging ‘caring city’ paradigm in urban planning, especially feminist urbanism, places care of its citizens and the environment at the centre while also allowing citizens to take care of themselves and others.<sup>10</sup> Despite its holistic conceptualisation, the caring city, as it is presented, so far illustrates mostly an anthropocentric approach, neglecting deeper considerations of environmental aspects, including enduring environmental injustices.

In the environmental justice literature, some scholars are starting to offer a new approach for analysing and promoting justice in public spaces focusing on care, and the emancipatory functions of public spaces with intersectional lenses. This new environmental justice approach considers the reparative/restorative and preventive justice, considering how people understand, value, sense and live public spaces in their everyday life. Also, this new environmental justice approach pays particular attention to the possibilities and

**Table 1** Examples of how the just ecofeminist healthy cities approach may inform the different stages of research around public green spaces and women’s health: research framework and research question

Research stage	Putting to work the just ecofeminist healthy cities approach for research on public green spaces and women’s health
Research framework and research question	<ol style="list-style-type: none"> <li>Develop a new framework based on those traditionally used for research on the health benefits from public green spaces<sup>27,48</sup> to: (1) include the health of human and non-human others as outcomes, (2) incorporate interrelations with widespread threats for humans and the Earth as we know it (eg, climate change, urbanisation, biodiversity loss, increasing frequency of natural disasters) as potential pathways, (3) reflect the role of caring tasks as confounders of the potential associations, (4) exchange how sociodemographic and economic factors are included in the frameworks as monolithic characteristics of participants by an intersectional understanding of these overlapping factors, (5) include political and other contextual factors that may encompass power dynamics and may impact the factors included in the framework and the associations explored (such as historic city planning decisions, opening hours of public green spaces or city transport characteristics), (6) take into account the different spheres of daily life and different perceptions and experiences of public green spaces to determine exposure to public green spaces and potential pathways, (7) include environmental justice elements as modifying factors or reconceptualise public green spaces so they become exposures with justice elements layers (eg, including value given to, understanding of public green spaces instead).</li> <li>Embrace the importance to have different research questions at microlevel (eg, neighbourhood, institution/organisation) and macrolevel (eg, the city and beyond).<sup>23</sup> While microlevel research questions can, for example, more deeply investigate the different spheres of daily life and the diverse understandings of public green spaces; macrolevel research questions can focus on non-human others such as the ecosystem.</li> <li>Focus on socially underprivileged groups of women with an intersectional approach (eg, immigrated racialised transwomen or elderly women from low social classes living alone) that are those traditionally excluded from research on public green spaces and women’s health, and yet have some of the greatest needs for healthier and greener urban environments since they do not often have the means or time to access more remote green spaces.</li> <li>Develop research which is consequential and transformative. That is, research that focuses on impactful public health outcomes and that seeks solutions for a transition to ways of living that protect the health of current, future generations and the Earth’s health.<sup>49</sup> This research should question the growth-driven model of urban development and highlight practices and experiences of community-driven wealth creation and alternative and solidarity economies, including those emerging around urban greening and public space projects. So, just ecofeminist healthy cities research should be performed only until there is enough evidence for action.</li> <li>Frame related research questions based on the previous points<sup>1-4</sup> such as:             <ol style="list-style-type: none"> <li>What are similar and differential needs, uses and perceptions in regard to public green spaces and health for women across different intersectionalities (eg, between transwomen and cisgenderwomen of different ages and classes, between women born in the neighbourhood of study and immigrated to the area from different ethnic groups and ages)?</li> <li>What quality or characteristics of public green spaces (vegetation features; biodiversity elements) improve women’s health now while not damaging the health of others now nor in the future? What type of amenities seem to best contribute to women’s health (socialising spaces and cafés; specific sports infrastructure; benches and other resting spaces; toilets, ramps, lighting and other safety elements such as emergency buttons, etc)?</li> </ol> </li> </ol>

credibility given to experiences and knowledge of different social groups.<sup>21, 22</sup> Moving further, the ‘just ecofeminist sustainability,’ approach is situated at the intersection of feminism, ecology, society and economy while accounting for the ways that our social, economic and political practices are traversed by multiple intersectional axes of identity and understanding that we (humans) cannot be dissociated from the planet.<sup>23</sup> Yet, although the approaches of environmental justice applied to public spaces and just ecofeminist sustainability are broad, their implications for healthy cities are unclear or incomplete.

Considering how the COVID-19 pandemic has evinced the need to redefine healthy cities incorporating caring city, environmental justice and just ecofeminist sustainability paradigms, we propose that research about post-COVID-19 cities should be built on a ‘just ecofeminist healthy cities’ approach (figure 1). This new approach interprets the incorporated paradigms using planetary and eco health lenses which take into account linkages between broad ecosystems in maintaining health for humans and all species alike.<sup>3</sup> It also reinforces intersectionality, as an important concept existing in all the incorporated paradigms. More specifically, we define this new approach as one that focuses on maintaining and/or improving the environment (ie, physical factors and how these are impacted by social and political aspects) to reach the highest attainable standards of human health for the whole population while paying particular attention to the health of socially underprivileged residents. To do so, the approach focuses on all the spheres of daily life to recognise injustices, power and domination dynamics in cities that need to be repaired and transformed. Consideration is also given to the different ways in which people understand, value, sense and live the urban environment distinctively based on multiple axes of intersectional

identity. It also acknowledges the ecological interconnection between humans and the Earth, so it considers that humans’ health cannot be achieved if we do not take care of human and non-human others (ie, humans, animals, ecosystems) and assure their health.

### Zooming in on the new approach: health benefits of public green spaces for women’s health

To illustrate the implications of our proposal for postpandemic urban public health research, we propose new directions for research on the relationship between public green spaces and women’s health. Research on how public green spaces benefit women’s health is particularly salient in the post-COVID-19 outbreak urban context.

Although men have been shown to experience more severe COVID-19-related health outcomes,<sup>24</sup> the risk of infection, number of cases and the consequences of the pandemic—particularly psychological impacts—are worse for women.<sup>1, 13, 25</sup> Additionally, the higher physical and mental burden suffered by women in general during the pandemic is particularly related to the increased burden of unpaid care work, especially when caring for children, elderly people or people with disabilities.<sup>1, 6, 13</sup> Moreover, as a consequence, women have experienced increased exposure to COVID-19 once someone in the home becomes infected.<sup>13</sup>

In this section, we focus on public green spaces as one key element of well-designed, climate-responsive cities, of community health and of moving towards just ecofeminist healthy cities. Indeed, public green spaces play a major role in climate resilience, easing biodiversity and soil loss, and decreasing loneliness and prevalence of non-communicable diseases prevalence, among other benefits for humans, animals and ecosystems.<sup>26-29</sup> The importance given to and time spent in public spaces like

**Table 2** Examples of how the just ecofeminist healthy cities approach may inform the different stages of research around public green spaces and women’s health: research design, methods and implementation practices; dissemination of results

Research stage	Putting to work the just ecofeminist healthy cities approach for research on public green spaces and women’s health
Research design, methods and implementation practices	<p>(1) Incorporate (trans)feminist methodologies to research so the lives of those women experiencing intersectional health are at the centre of the research, with the primary aim of improving their lives and health.<sup>23</sup> To do so, research must be orientated towards community participation, co-operativeness, colearning and empowerment<sup>50</sup> using approaches such as (or inspired by) participatory research, popular epidemiology or feminist participatory research.<sup>51 52</sup> Such approaches may also call for the incorporation of qualitative methods such as collecting data via qualitative interviews, focus groups, ethnographic methods of observation, go-along interviews, photovoice or participatory photo mapping<sup>52</sup> which can help researchers understand how public green spaces are experienced, perceived, navigated, made meaningful and used by women in their different spheres of daily life (ie, the exposure to these spaces and even potential pathways of association with health), what processes and mechanisms underlying the association between public green spaces and health may differ depending on multiple axes of women’s identity and may even serve to uncover new hypotheses for further studies.<sup>53</sup> Gender-responsive intersectional lenses can provide gender-specific data, actions and assessments that consider the specific responsibilities, needs, experiences, expectations, challenges and underlying health conditions of different genders accounting for the intersectionality of gender with class, place of origin and other social vulnerabilities.<sup>1 54</sup></p> <p>(2) Leverage mixed methods, (semi)experimental and qualitative data from case studies to gain a deep understanding of the relationships between public green spaces and health of women and others and use its results as tools for change. However, the just ecofeminist healthy cities approach should be mainly guided by the cause of morbidity or mortality (injustice) and less by the specific methodology used, escaping from the ideas of hierarchical evidence and embracing that a mix of different types of evidence is what is needed.<sup>49</sup></p> <p>(3) Follow feminist caring practices with the research team members and participants. That is, focus on the team and its well-being and needs instead of individualism, performance and productivity as much as possible. To do so, dedicate time and resources to care and support in your team meetings.<sup>55</sup> With participants, ensure they feel as comfortable as possible during all the study and that they are completely informed of their rights as participants. Also, be aware of your own power and use it carefully.<sup>55</sup></p> <p>(4) Operationalise different justice dimensions for their incorporation in the research studies, including reparative and preventive justice lenses around access to green space. For example, for reparative justice, include percentage of traditionally underprivileged residents that are satisfied with access to green spaces. For preventive justice, integrate—for example—stress related with perceived risk of displacement due to environmental gentrification.<sup>56</sup></p> <p>(5) Establish clear paths of compensation for the community and residents of study such as compensating the study participants for their time and knowledge, invite them to coauthor the research outputs and employ them when possible.<sup>52</sup></p>

plazas, pedestrianised areas or public green spaces has increased with the pandemic, as open outdoor spaces are considered safer, with less likelihood of contracting the virus, than indoor spaces or crowded sidewalks.<sup>7 17 18 30</sup> In fact, the closure of public green spaces during lockdowns in several cities (eg, Zurich in Switzerland and Barcelona in Spain) has been linked to an increased realisation and appreciation of the importance of these spaces and their biodiversity for residents’ mental and physical health, with increased contact with these spaces since the pandemic outbreak.<sup>30 31</sup> Recent studies have also shown the increased importance of neighbourhood public green spaces for coping with confinement and the pandemic.<sup>32–35</sup> However, these studies—potentially strongly affected by participation bias—have rarely explored gender health inequities (see 27 29 for exceptions that reported no differential associations by gender) and none specifically investigated caring work or intersectional health inequities.

However, previous research shows that the health of different genders may benefit distinctively from contact with public green spaces, probably due to dissimilar uses of and perceptions about these spaces.<sup>36</sup> These health inequities will also be influenced by other social axes such as race or education. For instance, due to gender-specific norms in informal care work and additional vulnerability to gender-based violence, some studies suggest that women may prefer to use public green spaces near their home and those perceived as safe.<sup>37 38</sup> Moreover, exposure to nearby

public green spaces has been tied to greater health benefits for socially underprivileged residents—that is, those experiencing social vulnerability such as those with lower income, who are also more likely to be women.<sup>29 39 40</sup> These differential patterns of benefit have been explained by cultural, historical and contextual factors such as limited leisure time, living in highly urbanised neighbourhoods and lacking financial resources, that can prevent women from lower socioeconomic classes from travelling to parks or other public green spaces far from their homes or enjoying private green spaces.<sup>41 42</sup>

Also, the pathways that could explain how public green spaces benefit people’s health may differ between genders. In that sense, women could benefit from public green spaces to a higher extent because of the social support systems that they have built in those spaces.<sup>26</sup> In fact, these public spaces contribute to place attachment, community identity and overall well-being when caretakers use them to meet others, build relationships and build trust.<sup>14 43–46</sup> In this direction, physical distancing associated with COVID-19 may have also decreased the potential benefits of greenspaces for women’s health.<sup>21</sup>

In view of the growing number of scholars proposing that COVID-19 could help planners rethink and redesign public spaces as vibrant spaces of health, care, community and collective activities,<sup>17 19 45</sup> we use the intersection of public green space and women’s health to exemplify how our proposed just ecofeminist sustainable healthy cities approach can inform a new

**Table 3** Examples of how the just ecofeminist healthy cities approach may inform the different stages of research around public green spaces and women’s health: research design, methods and implementation practices; dissemination of results

Research stage	Putting to work the just ecofeminist healthy cities approach for research on public green spaces and women’s health
Dissemination of results	<p>(1) Assure free unrestricted online availability of scientific publications and research data from the studies. Purposely link findings to planning action and even involve planners in building new scientific practices. Make results fully accessible as empowering knowledge tools to feminist or women’s support organisations and collectives, apart from environmental and health associations and practitioners.</p> <p>(2) Produce dissemination materials that highlight both the novelty and value of the research approach and design, and—at the same time—emphasise the quality and importance of the findings. These could be in the form of newspaper articles and other mass media coverage, talks, social media report of results, visual material of the study results such as (interactive web-)documentaries, ArcGIS story maps or critical interactive mapping, for instance.</p>

research agenda by framing: (1) research questions (2) research design and methods, and (3) research dissemination (tables 1–3). Accordingly, we advocate for the development of a new framework, to consider different scopes for research questions depending on the area of focus, to pay particular attention to those women populations that are usually excluded from studies and to develop consequential and transformative research. To do so, we suggest the use of feminist methodologies for data collection and caring practices with both participants and the research team and operationalisation and incorporation of different justice dimensions in research studies. Finally, we point out that it is important to ensure availability of scientific publication for all those interested, to link research findings to practice, and to produce useful dissemination materials for the community. Moreover, we acknowledge that our proposed approach should be based on establishing partnerships with public, private, voluntary and community organisations and local residents for developing the research questions, study design, data collection and dissemination tools.

## CONCLUSIONS

In summary, we have proposed a new approach that builds on different research fields at the intersection of social, health and environmental sciences: the just ecofeminist healthy cities approach. Our proposal is an answer to the needs to include care work, highlight intersectional social inequities, and environmental injustices in the healthy cities' movement that the direct and indirect effects of the COVID-19 pandemic have illustrated. The scientific evidence that results from the inclusion of this new approach into urban public health research, together with political will, organising efforts, and economic investment could change city and public space imaginaries and agendas<sup>47</sup> towards cities that are healthy, equitable, caring, just, ecofeminist and sustainable for current and future generations of humans, animals and the ecosystem.

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