Special Issue: Urban Public Health Emergencies and the COVID-19 Pandemic (1): Social and Spatial Inequalities in the COVID-city

Urban Studies

Urban Studies
2023, Vol. 60(8) 1329–1345

DOI: 10.1177/00420980231170740
journals.sagepub.com/home/usj
Sage

Urban public health emergencies and the COVID-19 pandemic. Part 1: Social and spatial inequalities in the COVID-city

Scott Orford
Cardiff University, UK

Yingling Fan
University of Minnesota, USA

Philip Hubbard
King's College London, UK

Abstract

COVID-19 has had unprecedented impacts on urban life on a global scale, representing the worst pandemic in living memory. In this introduction to the first of two parts of a Special Issue on urban public health emergencies, we suggest that the COVID-19 outbreak, and associated attempts to manage the pandemic, reproduced and ultimately exacerbated the social and spatial divides that striate the contemporary city. Here, we draw on evidence from the papers in Part 1 of the Special Issue to summarise the uneven urban geographies of COVID-19 evident at the inter- and intra-urban level, emphasising the particular vulnerabilities and risks borne by racialised workers who found it difficult to practise social distancing in either their home or working life. Considering the interplay of environmental, social and biological factors that conspired to create hotspots of COVID-19 infection, and the way these are connected to the racialised capitalism that underpins contemporary urban development, this introduction suggests that reflection on public health emergencies in the city is not just essential from a policy perspective but helps enrich theoretical debates on the nature of contemporary urbanisation in its 'planetary' guise.

Keywords

COVID-19, pandemic, social inequalities, spatial inequalities, world city

Corresponding author:
Scott Orford, School of Geography and Planning, Cardiff University, Room 2.81, Glamorgan Building, King Edward VII Avenue, Cardiff CF10 3WA, UK.
Email: orfords@cardiff.ac.uk

摘要

新冠肺炎疫情在全球范围内对城市生活产生了前所未有的影响，是人们记忆中最严重的大流行病。关于城市公共卫生突发事件的特刊包括两部分，本文介绍了其中的第一部分，我们认为新冠肺炎疫情的爆发，以及管理该大流行病的相关尝试，再现并最终加剧了困扰当代城市的社会和空间隔阂。在此，我们利用特刊第一部分的论文提供的证据，总结了在不同城市和城市内的不同区域，新冠肺炎疫情明显表现出的城市地理区域之间的不平衡，强调了在家庭或工作生活中很难保持社交距离的种族化工人所承受的特殊脆弱性和风险。环境、社会和生物因素的相互作用共同导致了新冠肺炎疫情集中爆发，考虑到这些因素的相互作用，以及这些因素与支撑当代城市发展的种族化资本主义的连接方式，本文表明，对城市中的公共卫生紧急情况的反思从政策角度来看不仅是必要的，还有助于丰富关于当代城市化的本质的理论辩论，而当代城市化往往打着 "全球化 "的幌子。

关键词

新冠肺炎疫情、大流行病、社会不平等、空间不平等、世界城市

Received March 2023; accepted March 2023

Introduction

On 31 December 2019, Chinese health officials informed the World Health Organization (WHO) about a new coronavirus disease first reported in Wuhan, China, believed to be centred on the city's wet market. A month later, as China confirmed about 10,000 cases and more than 200 deaths, the virus spread globally and WHO declared a global public health emergency. Three months later, COVID-19 was evident in every continent except Antarctica. By the end of April 2020, the total number of cases worldwide surpassed 3.12 million and the death toll surpassed an estimated 217,000 (World Health Organization, 2023). Even after the roll out of vaccination programmes, by the end of 2022 nearly seven million were thought to have died as a direct result of COVID-19, with nearly a billion having contracted it.

COVID-19 is then the worst pandemic in living memory but is by no means unique as a public health emergency with global ramifications. Indeed, before COVID-19, the world had witnessed at least five pandemics in the 21st century: H1N1 in 2009, polio in 2014, Ebola in 2014, Zika in 2016 and Ebola in 2019 (Chakraborty and Maity, 2020). Each instigated a series of urgent responses which connected the local to the global, recognising that microscopic pathogens can potentially spread via the same networks of travel and trade that unite places in world city networks. But despite accumulated knowledge from epidemiology, including that derived from the severe acute respiratory syndrome (SARS) outbreak of 2003 – which followed a very similar path of global contagion, both hierarchically through the world city network and locally through spatially contiguous patterns of daily commuting for work or education – COVID-19 spread with an unpredicted rapidity, with 'super-spreading' events creating extreme variance in national rates of infection (Broomell and Kane, 2021).

In the midst of the worst global pandemic in living memory, governments issued travel advisories, 'shelter-in-place', 'stay-at-home' and 'work-at-home' mandates, closure of non-essential establishments such as retail and leisure facilities, social distancing and even quarantine orders in an effort to combat the spread of COVID-19. In the short-

term, these 'lockdown' measures have changed the way urban residents lived, worked and traveled in and between cities, with new patterns of urban food provisioning, homeworking and community support emerging which were focused on the 'local' neighbourhood (Lai et al., 2020). Ideas like the compact '15-minute city' suddenly became championed as a model for walkable, healthy cities, with concerns about non-communicable diseases entwining with those about infectious disease to promote new locally-circumscribed ways of working and living. At the same time, urban delivery services and e-retailing took on a heightened role in economic life, with established spaces of consumption (restaurants, pubs) forced to rapidly adapt via take-away services and the provision of new alfresco eating areas as the boundaries of private and public space were inverted. During lockdown, cities underwent unprecedented changes, with urban life slowing to the extent that citizens became more attuned to the rhythms of nature – including animals that unexpectedly entered cities or began to behave markedly differently as the volume of vehicular traffic reduced (Gibbs, 2022).

Longer-term – and perhaps more fundamentally – the pandemic appeared to change attitudes towards the desirability of urban life itself, with post-lockdown migration and mobility trends suggesting something of an urban exodus as wealthier urbanites left larger cities for suburban and rural homes offering the outdoor space for exercise and socialisation that was so valued during COVID-19 lockdowns. In the US, the number of urban out-migrants reached the highest level for ten years, with more populous cities (more than five million population) seeing higher rates of out-migration than smaller ones (Whitaker, 2021). These trends were mirrored elsewhere, to a lesser or greater extent (Kato and Takizawa, 2022; Sapra and Nayak, 2021). In part, this was related to the excess deaths among older populations most vulnerable to the virus, with more homes becoming available in rural, retirement communities. But the normalisation of online tele-working, and the more general representation of cities as unhealthy hotspots of COVID transmission, fuelled a resurgence of talk about rural 'telecottaging', the revival of village life and the associated decline of city centres as spaces of economic activity. Indeed, as cities began to emerge from lockdown, it was the suburbs and rural hinterland that appeared to 'bounce back' quicker than the centres of world cities, with serious questions raised about the long-term viability of real estate in the office and retail sector (Rosenthal et al., 2022).

The impacts of the COVID-19 pandemic for cities and urban communities have been fiercely debated, not least in the earliest periods of lockdown which forced all but 'front-line' workers to resort to home working, hollowing out many cities and rendering some of the liveliest of public spaces sterile and empty. Dystopian images of abandoned cities abounded, albeit the 'great pause' in everyday activity – the anthropause – also encouraged a revaluation of many axiomatic aspects of urban life, and recognition that the disruption to established patterns of commuting and working had created crisper, greener, cleaner cities: travel restrictions significantly reduced NO_2, CO and other pollutants directly associated with the transportation sector (Sharifi and Khavarian-Garmsir, 2020). Citizens also began to notice 'new forms of lockdown multispecies relatedness' (Searle et al., 2021: 75) taking place, with the lockdown providing valuable opportunities for urbanites to engage with the often-unnoticed wildlife that exists in and around cities. Local green spaces were valued like never before (King and Dickinson, 2023).

COVID-19 was then unlike any other pandemic in living memory, occurring at a time when the majority of the world's

population lived in cities, and those living in the best-connected, most global cities seemed particularly vulnerable to illness (Florida et al., 2023). In contrast, the 1918 Spanish flu pandemic – which affected around 25% of the world's population – occurred when less than one in five people lived in cities: moreover, the highest mortality from Spanish flu was in rural communities, with those in urban settlements seemingly enjoying a degree of inherited immunity thanks to exposure to previous waves of communicable disease and the H1N1 virus that caused Spanish flu. As such, the consensus that the improvement of sanitation and hygiene, underpinned by social distancing, can reduce the transmission of COVID-19 and future viruses, needs to be juxtaposed with the view that acquired immunity might rely on repeated exposure to the virus, with 'herd' immunity sometimes depicted as a more cost-effective, if contentious, alternative to vaccine-acquired immunity (see Arbel et al., 2022).

In this sense, COVID-19 has raised multiple questions about the relationships between cities and public health which are, as yet, unresolved. These include, inter alia:

- Do the living conditions of contemporary cities heighten risks of infectious diseases, making pandemics more likely in the future?
- Does the effective combination of urban government and civil society offer resilience in face of such public health emergencies?
- What role can smart city technologies and solutions play in mitigating the worst impacts of a global pandemic?
- Do we need new models of urban design and planning to promote healthier, sanitary conditions that reduce the possibility of infection?
- Does the 'resetting' of particular urban processes provide an opportunity to develop a more sustainable and healthier city, better prepared for future pandemics?

The Special Issue, commissioned in 2020, sought to welcome contributions engaging with these thorny questions, hoping to solicit timely papers which used the pandemic city as a lens through which to engage with wider urban debates, rather than just snapshots of an unfolding crisis. The Call for Papers outlined five topic themes, including urban infrastructure development, smart city and big data application, population change and mobility, governance, and social and spatial disparities. The call resulted in a total of 22 accepted papers, including five critical commentaries, 16 full articles and one debates paper. These papers were allocated into two parts based upon thematic content. The first part, entitled 'Social and Spatial Inequalities in the COVID-city', has four critical commentaries and six full articles with the main focus on population change, density and migration as well as social–spatial inequalities and public health responses. The second part, entitled 'Infrastructures, Urban Governance, and Civil Society', has one critical commentary, one debates paper and ten full artcles with the main focus on urban form and infrastructure development as well as urban governance and civil society. As these two parts speak to questions of cities in the context of public health emergencies, it is important to note that the initial versions of the papers were mostly developed before December 2020 when vaccines were not widely available. Conclusions made then might not be the same now given the changing dynamics and unpredicted events in post-COVID society (Acuto, 2020). Nonetheless, it is our hope that this Special Issue will add to the growing literature on cities and public health and foster scholarly debates concerning the new and emerging relationships between urbanisation and infectious diseases.

Population change, density and migration

The global spread of COVID-19 was without precedent in terms of speed and scale. There were only 19 days from the first known death associated with COVID-19 on 11 January to the WHO declaring a 'public health emergency of international concern' on 30 January. This rapid 'scaling up' speaks to the fact that in the early stages of the pandemic, infection occurred through human contact with host animals, and was centred on specific loci of transmission. Here, in its early phase COVID-19 followed past outbreaks of infectious diseases associated with rural–urban migration and the importation of particular zoonotic diseases (Gandy, 2023). Yet once COVID-19 mutated into a form that was easily spread via respiratory human-to-human transmission, it quickly rippled out from local hotspots into the 'space of flows' that binds global urban centres together via flows of tourists and business travellers (Christidis and Christodoulou, 2020), particularly through forms of aeromobility and high-speed rail transport.

Here, initial predictions that density of population could explain the geographies of COVID-19 infection were quickly confounded by awareness of the significance of connectivity within world city networks. Hamidi et al. (2020), for example, studied 913 US metropolitan counties to suggest larger metropolitan areas had higher infection and mortality rates, but suggested connectivity rather than population density per se explained this geography. In this sense, attempts to prevent movement in and out of cities appeared a logical precautionary measure to prevent the proliferation of COVID-19. However, such measures were not taken lightly given 'disconnecting' cities from their local and global hinterlands came at huge economic cost. A key debate was the extent to which border controls and local quarantine impacted negatively on the economic life of cities, not least in terms of the international tourism and hospitality sectors which were so badly hit during periods of lockdown. At the time, the prognosis for post COVID-19 economic recovery was not good:

> To some extent, urban tourism may return, but business travel may fail to recover with a consequent knock-on effect on convention hotels, convention cities, and the business services sector that deal with international business travel. After months and perhaps years of online operations, the business, government, and nongovernment communities may find it less necessary to fund business travel, especially as conference call technology becomes more sophisticated. (Martínez and Short, 2021: 5)

While it saved lives, it was often argued that prolonging curbs on urban in-migration and movement impacted negatively on urban productivity, to the extent that the economic *raison d'etre* of some major cities was brought into question. With many in the financial and media sectors switching more-or-less effectively towards online working (Shearmur et al., 2021), commercial real estate in major world cities began to collapse in value, and predictions of the decline of 'alpha world cities' began to circulate.

Here, it was not just world financial centres that appeared to be badly hit by COVID lockdowns, but also the 'small-but-relational' (Hesse and Rafferty, 2020) cities deemed most reliant on global flows of business and migration (e.g. European centres of NGO activity, governance and finance including Zurich, Luxembourg and Brussels). Hesse and Rafferty (2020) argued that these cities stood to lose perhaps more value from short-term lockdown and medium-term travel/working/trading restrictions than those with more diverse, lower-growth economies.

But at the same time lockdowns also showed that there were radically different ways of living and working made possible by digital technologies. The fact is that the financial services deemed central to the reproduction of relational and gateway cities did not close down but adapted by using social media tools and virtual networking. Moreover, some suggested that homeworking encouraged greater productivity by freeing up the time commuting, with many workers also reporting increased job satisfaction as they adopted new flexible working arrangements (Hubbard et al., 2021). As Florida et al (2023) argue in this issue, distance working initially appeared to boost worker's wellbeing by reducing commuting times and allowing for more time to be spent with families, while companies benefitted by releasing office space leased at high premiums.

As lockdown unfolded, some of those who readily adapted to homeworking and were in a position to sell up moved away from city centre locations, with increases in suburban land values over the course of the pandemic suggesting that teleworking was fuelling an 'urban exodus'. In turn, this centrifugal tendency begs important questions about the importance of embodiment, face-to-face business practices and expectations of the extent to which cities are home to the epistemic communities which articulate global flows of finance, talent and creativity. As Florida et al. (2023) suggest, the quality of life in suburban areas may not offer the buzz or dynamic street life of central cities, but residents continue to have good connectivity to the social and economic networks of the central city via e-connection while enjoying a greater level of perceived safety, and more open space. One suggested outcome is that 'the highly educated and affluent populations that have been re-urbanising since the 1980s may start to see the benefits of living outside but close to major cities, fleeing gentrified neighbourhoods for upscale suburbs and nearby small towns' (Florida et al., 2023: 1521).

In this sense the impacts of the COVID pandemic on existing urban hierarchies appear to have been highly ambivalent, with world cities appearing to de-centre and 'stretch out' in particular ways, but not losing their pre-eminence within global networks of finance and trade (da Silva Corrêa and Perl, 2022). This produced dual metropolitan imaginaries: as Pratt (2020) writes, for some, COVID-19 generated ideas of an isolated idyll and telecommuting from beyond the centre, while for others, the realisation of the crucial role that 'real world' urban meeting places have was underlined. Florida et al. (2023) hence predicted the emergence of hybrid urban geographies where knowledge workers regularly move between home-working and teleworking – and between presence and absence. As they contend, the continuing need to be connected to the most prosperous world cities means the divide between the leading world cities and cheaper metro regions is unlikely to be bridged, and that possibly the gulf between successful and failing city-regions is actually going to widen in the post-COVID era (despite initial predictions of the decline of metropolitan economies).

Much of the discussion of the impacts of COVID-19 has hence centred on major world cities, and their particular exposure as gateway cities in international networks of mobility and migration. In this respect, the geography of COVID-19 mirrored that of earlier pandemics. For example, Ali and Keil's (2006) analysis of the 2003 Severe Acute Respiratory Syndrome (SARS) outbreak suggests that this mapped onto the geography of the world city network, with the spread of disease facilitated via asymptomatic passenger movements between the hubs and nodes of the global financial system. Herein, it is clear that traditional ideas

of disease ecology and diffusion were transformed via new channels of global connectivity, with outbreak containment becoming focused on air travel advisory notices and travel bans attuned to global diasporic connections as much as rural–urban travel. Travel restrictions, screening at borders and compulsory quarantine all became standard measures designed to prevent COVID-19 transmission, albeit entry and exit symptom screening measures on their own are not thought likely to have been effective in detecting a significantly meaningful proportion of cases to prevent seeding new cases (Burns et al., 2021).

Given that the incubation period for COVID-19 made detection of the virus near-impossible, prevention measures shifted rapidly from those focused on national borders to lockdown strategies designed to prevent spatial clustering and agglomeration within cities by shutting shops, restaurants, schools, workplaces and other spaces where spatial proximities were predicted to spread the virus. Boterman (2023) presents data on the incidence of COVID infection in The Netherlands to show that these lockdowns took away much of the 'potential effect of urban density' and that in the initial, strict, phases of lockdown, population density was a weak predictor of COVID infections and hospitalisations, albeit once this period ended population-dense areas again became hotspots of infection. Studies elsewhere also cast doubt on the idea that population density per se was a key factor in the early transmission of COVID-19, albeit national variations were sometimes quite marked (Ehlert, 2021; Gaisie et al., 2022). Nevertheless, arguments for 'reverse urbanisation' became commonplace in the media, with the idea that lower density spaces are generally safer encouraging many wealthier, whiter occupants to move from city centre to suburban and out-of-town locations where space for socialising and exercising was perceived to be more readily available.

Over time, more evidence emerged that suggested it was urban connectivity, not density per se, that was pivotal in spreading COVID-19. Here, the suggestion is that capitalist urbanisation has provided a framework for the proliferation of COVID-19 via the making of socio-economic networks that extend through and beyond the city and its hinterlands. This is a point echoed by Florida et al. (2023) when they argue that major global hubs for business were early hotspots of COVID-19, along with the smaller tourist communities in the European Alps and US Rockies which played host to early 'super spreader' events. Their conclusion about hyper-mobility resonates with Kuebart and Stabler's (2020) analysis of the geographies of COVID-19 in Germany, which suggests that trans-local transmission of the virus occurred through the return of tourists from ski-areas as much as through local interactions within office or retail spaces. Equally, Hesse and Rafferty (2020) note that Germany's first case occurred in the urban periphery at a Bavarian auto manufacturing plant due to transmission from a Wuhan-based expert's business travel. As they conclude, patterns of contagion appeared to reflect wider urbanisation processes of production and consumption as much as local proximities, suggesting that explanations of diffusion based on spatial relationality rather than distance per se are most useful in explaining the geographies of COVID-19.

Duminy (2023) similarly argues that the role of connectivity may help to explain why many dense urban environments in the Global South, including in sub-Saharan Africa, suffered lower COVID-19 morbidity and mortality than cities in the Global North. Echoing much of the 'ordinary cities' critique emanating from scholars of the Global South (e.g. Robinson, 2013), he

suggests that the focus on global cities and 'supranational patterns of connection and flow' may help illuminate some of the most influential urban dynamics of the pandemic, including lower rates of infection and illness in cities less well connected to global networks. Here, his suggestion is that the incidence and distribution of COVID-19 in many cities in the Global South is best explained by internal factors and 'place-based drivers of urban change and well-being' such as reproductive health and fertility rates rather than external connectivity within the global space of flows. He concludes by stressing the need to address the role of international airports in the incidence of COVID-19 in the Global South, but also stresses the need to analyse local geographies of travel, arguing the 'material realities' of neighbourhoods matter as much as the position of a city in a global space of flows.

Here, Duminy echoes McLafferty's conclusion about the geographies of pandemic, wherein she argues that although diffusion modelling sheds light on the spatial and temporal dynamics of pandemics, such approaches fail to consider the social and political–economic contexts in which transmission occurs:

> The presence of pathogens and disease vectors in a place is a necessary condition for transmission, but it is nowhere near sufficient… The concept of vulnerability is crucial for understanding these inequalities and identifying policies to address them. Vulnerability refers to the ability to resist, cope with, and recover from external stresses. Exposure is largely a product of the social and built environments in which people live, their access to resources, and their behaviors and social interactions. Resistance describes the ability to ward off disease, the strength of the immune response. People's general health, nutritional status, and access to immunization are important determinants of resistance. Recovery, the capacity to return to a productive life after infection, is partly influenced by access to health care and effective medical treatments, but also by many of the same kinds of social and economic supports that affect exposure and resistance. (McLafferty, 2010: 148)

This serves to make the simple but important point that it remains urban areas and groups affected by underlying problems of infectious disease, non-communicable disease and ill-health that are more vulnerable to epidemiological outbreaks, with such vulnerabilities heightened by a lack of access to clean water and healthcare facilities, overcrowded living conditions and high levels of social mixing. As Duminy notes, these kinds of forces are of particular salience in urban settings that are not so closely bound into global circuits of financial capital as London or New York.

Socia–spatial inequalities and public health responses

As the discussion above implies, pandemics have disproportionately impacted on minorities and those living in neighbourhoods characterised by socio-economic deprivation. These populations are generally those most likely to be suffering more from pre-existing conditions due to their exposure to risk, toxicity and non-communicable disease, as well as limited access to health and social services (Sharifi and Khavarian-Garmsir, 2020). This helps explain why, even though COVID-19 rates were lower in parts of the Global South, mortality rates were often higher than in the cities of the Global North. Though there are of course those in the Global North living in insecure, unfit and unsanitary housing, the proportions living in slums with poor living and sanitary conditions remain high in many of the rapidly expanding urban centres of the Global South. Here, a combination of factors such as household crowding, poor access to basic sanitation and endemic poverty made it hard

to prevent the proliferation of COVID-19 in some urban neighbourhoods (Sharifi and Khavarian-Garmsir, 2020), with existing morbidity and limiting long-term illness exacerbating the impacts of the virus.

It has become clear that a complex web of social and spatial factors conspired to create these unequal geographies of risk and vulnerability. Nathan (2023) draws on the work of Cevik et al. (2021) to summarise some of the most important factors that shaped vulnerability to COVID-19. The first concerns 'host' (biological) vulnerabilities: COVID-19 appears most severe for those over 60, for men and for people with pre-existing health conditions. The second factor is the (social) contact pattern, with the virus spreading through sustained close contact, meaning those living with an infected person (and unable to isolate within the home) become especially vulnerable. Third, and following from this, is the degree to which people can avoid being indoors with those harbouring infection: early outbreaks in prisons, homeless shelters and student halls of residence helped establish the importance of forced domestic proximities, while the devastating impact of COVID-19 on many care homes for the elderly posed fundamental questions about the provision of healthcare delivery to the most vulnerable (Gordon et al., 2020).

For the elderly living 'in place' (i.e., beyond the confines of institutional settings), COVID-19 was a major threat. Buffel et al. (2023) argue that under social distancing guidelines, vulnerable older people living in socio-economically deprived neighbourhoods, in particular, experienced a 'double lockdown' as a result of interrelated social and spatial inequalities associated with COVID-19. They argue that those who had to shield at home faced particular challenges in terms of well-being and mental health, with decreased social connectedness adding to the trauma of living through the pandemic (Buffel et al., 2023: 1468). They go on to relate how these challenges were magnified for those in older industrial regions, citing the work of Beatty and Fothergill (2021) that suggests death rates and hospitalisations were 20% higher in de-industrial regions than the UK average, with many elderly people in these regions having had to spend more time in unsafe and 'non-decent' housing and less time in the community spaces that could have theoretically provided them with better support and social networks on a day-to-day basis during lockdown (see also Joy et al., 2020).

More generally, place-specific entwining of the biological, social and environmental led to distinct patterns of morbidity and mortality which displayed characteristic age, class, gendered and especially racial inequalities. For example, in US cities a frequently observed phenomenon was that hospitalisations for COVID-19 among Latinx and African Americans were four times higher than that of white Americans, with African Americans dying at over double the *per capita* rate of white Americans (Ruprecht et al., 2021). Such racialised vulnerabilities appeared inherently related to histories of racialised urbanisation in the US, with the inability of non-white individuals to self-isolate, enact social distancing measures and to work from home shaped by their disadvantaged position in both occupational and residential markets. Here, the over-representation of racialised minorities in front-line 'dirty' work (e.g. cleaning, catering and nursing) where social distancing was impossible helped explain disproportionate numbers of deaths among this group, especially in the pre-vaccine era (Do and Frank, 2021). Living in larger households also appeared an important risk factor in transmission: overall, the odds of severe COVID-19 were much higher for people living in households of three or more when compared to individuals living in a household of two, with living in overcrowded and multigenerational households more prevalent among

racialised minorities in the city (Ghosh et al., 2021).

The racialisation of risk posed by COVID-19 relates back to the economic imperatives of stratified labour markets in which people of colour are over-represented in the most acutely exposed ranks of 'essential' but precarious frontline workers (Sparke and Williams, 2022) who remained exposed to the virus through work. As Florida et al. (2023) note, oftentimes little was done to limit interactions between these workers and the public they served, or among the workers themselves. Against that, white collar knowledge workers were more readily able to cut themselves off from others, being more likely to have access to a personal car for transportation and typically living in an uncrowded homes.

This description of a divided city draws on long-established motifs of socio-economic polarisation in the metropolis (e.g. Baum, 1997; Sassen, 2001) and the putative split between high-wage creative 'knowledge-intensive' work and low-wage 'frontline' service roles (see also Nathan, 2023). In general terms, this suggests creative workers had the means and choice to work at home, while frontline workers could not because of fears of losing income. Nowhere is this better illustrated than in Hassan et al. (2023) whose paper on sex workers in Nairobi, Kenya, shows that lack of financial security forced them to continue their 'risky' business, albeit that one of the main sources of risk was not COVID-19 per se but violence at the hands of the police as well as clients.

The suggestion here is that the COVID-city split between exposed menial and service workers, and between home-workers and those on the streets. This divide manifested in city centre/suburban divides, and the emergence of new activity hotspots under conditions of quarantine and lockdown. For example, using smartphone data to reveal urban mobility before, during and after COVID-19 lockdown in London, Trasberg and Cheshire (2023) confirm that the usual patterns of social activity in London significantly changed across the early days of the pandemic. In affluent, whiter residential neighbourhoods, which they label urban elite and 'lifecycle' neighbourhoods, activities greatly reduced, while 'multi-ethnic' suburbs and 'workplace' zones remained relatively busy during lockdown. The correlation between activity and deprivation was also noticeable, with more deprived areas significantly busier than more affluent areas, albeit the latter recovered relatively quickly once restrictions were lifted. Warning of the dangers of ecological fallacy, Trasberg and Cheshire (2023: 1443) nonetheless confirm 'a divide between those in jobs that can be done from home and those with jobs that must be carried out on-site, with activity levels suggesting that those working in financial services, in particular,' were 'in a better position to work remotely.' An analysis of the relationships between activity and morbidity/mortality in London is beyond the scope of their analysis, but Harris' (2020) study of neighbourhood level correlates of COVID-19 deaths also shows areas with large numbers of low-income households with Black Caribbean residents were characterised by high levels of mortality.

Confirming the polarisation/risk nexus, such studies suggest that COVID-19 perpetuated the racialised geographies of poor health and vulnerability in the city. The paper by Zhai et al. (2023) on US cities and social distancing puts a slightly different spin on this by alerting to the fact that racialised minorities (especially non-Hispanic Black groups) were less likely to adhere to social distancing and 'stay-home' edicts than other population groups, partly because of their tendency to be living in neighbourhoods characterised by ethnic diversity. They conclude that individuals in more ethnically diverse neighbourhood were less likely to

practise social distancing because of mistrust and mistranslation of public health advice, with weak social cohesion meaning there were few community leaders who could reinforce governmental advice. However, Zhai et al. (2023) go on to suggest that this failure to follow prescribed social norms might also be an expression of deliberate mistrust expressed towards out-groups and forms of authority (something also apparent in lower rates of vaccine take-up). This conclusion is important given Zhai et al. (2023) suggest that many of those in these ethnically-mixed neighbourhoods were not employed in essential frontline jobs at the time of pandemic lockdown, with unemployment increasingly rapidly among ethnic minorities from March 2020 onwards. In many deprived US urban areas, households, schools and businesses also suffered from unaffordable, weak or non-existent Internet connection, leading to residents falling behind further during lockdowns, missing out on education and income-making opportunities (Boza-Kiss et al., 2021).

New urban lives and lifestyles

Many explanatory frameworks for socio-spatial inequalities in COVID-19 infection and mortality tend to place less weight on urban form and infrastructure per se and more on residential and labour market inequalities at the neighbourhood level. Yet work on housing design also has a role to play in explaining the spread of infection, with those living in smaller, overcrowded homes with few opportunities for social distancing more susceptible to infection. Marginalised populations experienced significant disparities in COVID-19 exposure and susceptibility depending on the nature of their residence, with the quality of home also impacting significantly on the psychosocial effects of the pandemic during lockdown.

Though there has been little systematic study of the comparative impact of lockdown on mental and physical well-being for those living in different forms of housing (though see Alonso and Jacoby, 2022), evidence from UK cities suggests that experiences of lockdown were markedly different for those living with no outdoor space compared with those who have gardens or somewhere they can get fresh air and exercise. But for some, added to this has been the challenge of combining home-working and everyday living in homes that are simply not large enough to accommodate both. During COVID lockdown, some 52% of working-aged adults in the UK (or over 15 m people) were estimated to be home-working compared with the 1.7 m usually thought to do so. A YouGov panel survey of 1000 Londoners during lockdown (April 2020) found this proportion was even higher in London, at around 70% – a not particularly surprising finding given the prominence of public administration, finance, insurance, law, advertising and related 'creative' industries in the city (Hubbard et al., 2021). Overall, those living in detached homes in London were four times more likely to report being very satisfied with homeworking than those living in flats or apartments in purpose-built blocks.

The inability of those sharing small homes with others to carve out sufficiently quiet and private spaces for homeworking, education or leisure pursuits was widely reported during lockdown (see also Hubbard et al., 2021). Privacy can be defined here as the intentional separation of Self from Society which helps maintain identity, integrity and personality. It is not about solitude or seclusion per se – although it can be – but rather the ability that people have to keep their thoughts, feelings and actions to themselves at the same time as they can choose whether or not to admit those of others. In this sense,

COVID-19 lockdown changed urban geographies from the scale of the global down to the intimate. Intimacy in this context is related to, but distinct from, privacy. It concerns the forms of closeness and connection that are associated with moments of self-disclosure, including the forms of emotional openness associated with sexual and familial relationships. While intimacy is increasingly mediated (via virtual technologies and e-communication), it continues to be assumed that intimacy is facilitated by physical proximity, and that there is an important equation between home life and intimate life. Questions of intimacy are hence central to ongoing academic debates concerning the relation of gender, sexuality and space as they pertain to housing (Cox and Buchli, 2017).

Privacy is a 21st-century preoccupation, and a concept frequently invoked in academic debates about state surveillance, data security and media intrusion. In a critical commentary on lockdown living, Hucko (2023) engages with the connections of privacy and intimacy by questioning how public health responses to COVID-19 served to transform (Western) understandings of publicity and privacy. Engaging with queer theory, Hucko argues that lockdowns designed to promote public health had unintended negative impacts for well-being that were disproportionately experienced by some urban populations. Here the research enumerates the increased violence against women in domestic spaces, the incidence of depression among those living alone and the lack of queer opportunities for contact that resulted from lockdown and quarantine measures in Germany, a nation that has particular reasons to be suspicious of surveillance and 'big data' collected by the state. Arguing for the reconstruction of privacy in the post-pandemic city, Hucko's (2023) reflections on the shifted spheres of urban social life provide a critical perspective on the erosion of intimacy and privacy that is justified by public health emergencies. Hucko's conclusion that we need to use urban publicity as a means of developing a new shared sense of urban privacy challenges many of the assumptions that underpin those public health policies fixated on the maintenance of healthy disease-free bodies rather than wider notions of well-being.

Arguably though it was those elderly residents living alone who found COVID lockdown particularly challenging. In much of the urban West, it was sometimes assumed the older generation could utilise social media and the Internet to maintain social connectivity ('silver surfing'), but as Buffel et al. (2023) describe, around five million people over 55 in the UK have no Internet access and became reliant on visits from outreach services and volunteer networks for any sort of social life. Robb et al. (2020) document the outcome of this in terms of a significant correlation between social isolation and the incidence of both anxiety and depression among 7000 plus over 50-year-olds in London.

In contrast to this isolated elderly cohort, many younger, more mobile urban dwellers were able to assuage feelings of isolation and loneliness by taking to the city's green public spaces, which began to accommodate new habits, mitigating the effects of restrictions on people's more general use of urban spaces. Legitimised as spaces of public exercise, and re-imagined therapeutic landscapes, city parks became crucially important – if contested – spaces of sociality and leisure (Luo et al., 2021). In their study of activity spaces in Stockholm, Legeby et al. (2023) used social media (Twitter) and survey responses to show that green spaces were particularly valued during lockdown as 'spaces of seclusion' where people could socially distance with others from their household bubble while walking or jogging, or participate in permitted sporting activities

with larger groups. In contrast, they report that central Stockholm was the most avoided part of the city. Along with other city centres characterised by empty shopping streets and office districts, the image of the deserted heart of Stockholm exposed just how 'useless' much of urban public space in contemporary cities is once it no longer functions for the sake of consumption or work (Pohl, 2022). Emerging from lockdown, a common refrain was that cities needed to be greener in the future (e.g. Pohl, 2022: 712). Noting the differential access enjoyed by wealthier suburbanites to green space, imagination of the desertified pandemic inner city suggested that post-COVID urban planning needs to insert accessible wildlife-supportive and vibrant green spaces in the heart of our cities (see Rastandeh and Jarchow, 2021).

Conclusions: Urban theory in pandemic times

Part 1 of this Special Issue provides some initial cuts through the urban dimensions of public health emergencies, focused principally on questions of social and spatial inequality. COVID-19 has been the obvious spur to such explorations, but many of the papers here build upon earlier theorisations of the connections between pandemics and cities, and the way that urbanisation is implicated in the reproduction – as much as the resolution – of public health emergencies. Here, urban studies draw on a lengthy tradition of research on how population density, substandard housing, food insecurity, plumbing poverty and poor access to medical testing conspire to make those living in the poorest parts of cities vulnerable to poor health, and how this is connected to environmental racism (Njoku, 2021). Zhai et al. (2023) hence conclude that COVID-19 and related lockdowns focused attention on the complex interplay of social and spatial drivers of poor health like never before, with the obvious gulf that emerged in many cities between racialised frontline workers and whiter, wealthier populations, underlining the uneven geographies of risk and illness characteristic of contemporary cities.

Here it is worth reflecting on the way that health inequalities in pandemic times reflect – and exacerbate – urbanisation processes that thrive on inequality. Madden (2020: 678), for example, argues that 'COVID capitalism' demonstrates the embeddedness of particular property relations within the neoliberal city, with public health policy seeking to prioritise the interests of *rentiers over workers*. As he notes, when the pandemic struck, the state at multiple levels acted swiftly to protect the interests of property owners by initiating rent relief schemes for businesses, whereas tenants in the private sector often enjoyed few protections. Precarious workers became more precarious still as food delivery firms and platform-based providers exploited the demand for their services without proportionately passing the rewards on to their workers. Sparke and Williams (2022) neatly summarise the links between urban neoliberalism and the pandemic thus:

> COVID has had such a devastating global impact precisely because it has embodied the pathologies of neoliberalism in a profoundly material way. It has increased infection exposure and thereby magnified the unequal impact of the pandemic on the poor and marginalized…COVID has ripped through the societal fault lines created by neoliberalism across the world. It has thereby brought illness and death disproportionately to communities already deprived and dispossessed by market forces everywhere. (Sparke and Williams, 2022: 27)

This type of analysis suggests that COVID-19 exposed the fault lines of the modern, divided city, rendered legible in daily tabulations of deaths and hospitalisations. Yet

despite the desire to 'build back better', urbanisation under COVID capitalism appears set to become an 'accelerated, riskier, and more authoritarian' variety of the urban neoliberalism that took shape in the last decade, with smart technologies and public health initiatives further embedding market logics into the everyday life of the city (Madden, 2020: 679).

Eschewing simplistic environmental explanations of poor health in cities, the papers in Part 1 hence contribute to understandings of how public health needs to be understood contextually, via a 'compositional' approach that recognises the specific entanglements of people and place which produce neoliberal susceptibilities and vulnerabilities. Overall, the distribution of the neighbourhoods most impacted by COVID-19 supports ideas that the geographies of poor health in the city are structured by capitalist processes of uneven development that value some populations and communities more than others. Reflecting on COVID-19 as a transformative moment in the trajectories of urbanised capitalism, we thus need to explore the specific urban geographies of 'COVID capitalism' that emerged in different contexts worldwide, exacerbating and exploiting the already-existing divides between the urban elite and the racialised, working poor whose labour they exploit.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

ORCID iDs

Scott Orford https://orcid.org/0000-0001-8517-4752
Yingling Fan https://orcid.org/0000-0003-0500-4804
Philip Hubbard https://orcid.org/0000-0001-7504-5471

References

Acuto M (2020) COVID-19: Lessons for an urban (izing) world. *One Earth* 2(4): 317–319.

Ali SH and Keil R (2006) Global cities and the spread of infectious disease: The case of severe acute respiratory syndrome (SARS) in Toronto, Canada. *Urban Studies* 43(3): 491–509.

Alonso L and Jacoby S (2022) The impact of housing design and quality on wellbeing: Lived experiences of the home during COVID-19 in London. *Cities & Health*. Epub ahead of print 1 August 2022. DOI: 10.1080/23748834.2022.2103391.

Arbel Y, Arbel Y, Kerner A, et al (2022) Is COVID-19 herd immunity influenced by population densities of cities? *Sustainability* 14(16): 10286.

Baum S (1997) Sydney, Australia: A global city? Testing the social polarisation thesis. *Urban Studies* 34(11): 1881–1902.

Beatty C and Fothergill S (2021) *The impact of the coronavirus crisis on older industrial Britain*. Project Report, Centre for Regional Economic and Social Research. Sheffield, UK: Sheffield Hallam University.

Boterman W (2023) Population density and the SARS-CoV-2 pandemic: Comparing the geography of differentwaves in the Netherlands. *Urban Studies* 60(8): 1377–1402.

Boza-Kiss B, Pachauri S and Zimm C (2021) Deprivations and inequities in cities viewed through a pandemic lens. *Frontiers in Sustainable Cities* 3: 645914.

Broomell SB and Kane PB (2021) Perceiving a pandemic: Global–local incompatibility and COVID-19 superspreading events. *Decision* 8(4): 227–236.

Buffel T, Yarker S, Phillipson C, et al. (2021) Locked down by inequality: Older people and the COVID-19 pandemic. *Urban Studies* 60(8): 1465–1482.

Burns J, Movsisyan A, Stratil JM, et al. (2021) International travel-related control measures to contain the COVID-19 pandemic: A rapid review. *Cochrane Database of Systematic Reviews* 3: CD013717.

Cevik M, Marcus JL, Buckee C, et al. (2021) Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) transmission dynamics

should inform policy. *Clinical Infectious Diseases* 73(Supplement_2): S170–S176.

Chakraborty I and Maity P (2020) COVID-19 outbreak: Migration, effects on society, global environment and prevention. *Science of the Total Environment* 728: 138882.

Christidis P and Christodoulou A (2020) The predictive capacity of air travel patterns during the global spread of the COVID-19 pandemic: Risk, uncertainty and randomness. *International Journal of Environmental Research and Public Health* 17(10): 3356.

Cox R and Buchli V (2017) Series preface: Why home? In: Pilkey B, Scicluna RM, Campkin B, et al. (eds) *Sexuality and Gender at Home: Experience, Politics, Transgression*. London and New York, NY: Bloomsbury Publishing, pp.xiv–xv.

da Silva Corrêa L and Perl A (2022) Global cities, hypermobility, and Covid-19. *Cities* 122: 103537.

Do DP and Frank R (2021) US frontline workers and COVID-19 inequities. *Preventive Medicine* 153: 106833.

Duminy J (2023) Beyond growth and density: Recentring the demographic drivers of urban health and risk in the global south. *Urban Studies* 60(8): 1365–1376.

Ehlert A (2021) The socio-economic determinants of COVID-19: A spatial analysis of German county level data. *Socio-Economic Planning Sciences* 78: 101083.

Florida R, Rodríguez-Pose A and Storper M (2023) Cities in a post-COVID world. *Urban Studies* 60(8): 1509–1531.

Gaisie E, Oppong-Yeboah NY and Cobbinah PB (2022) Geographies of infections: Built environment and COVID-19 pandemic in metropolitan Melbourne. *Sustainable Cities and Society* 81: 103838.

Gandy M (2023) Zoonotic urbanisation: Multispecies urbanism and the rescaling of urban epidemiology. *Urban Studies*. Epub ahead of print 21 February 2023. DOI: 10.1177/00420980231154802.

Ghosh AK, Venkatraman S, Soroka O, et al. (2021) Association between overcrowded households, multigenerational households, and COVID-19: A cohort study. *Public Health* 198: 273–279.

Gibbs L (2022) COVID-19 and the animals. *Geographical Research* 60(2): 241–250.

Gordon AL, Goodman C, Achterberg W, et al. (2020) Commentary: COVID in care homes—challenges and dilemmas in healthcare delivery. *Age and Ageing* 49(5): 701–705.

Hamidi S, Sabouri S and Ewing R (2020) Does density aggravate the COVID-19 pandemic? *Journal of the American Planning Association* 86(4): 495–509.

Harris R (2020) Exploring the neighbourhood-level correlates of Covid-19 deaths in London using a difference across spatial boundaries method. *Health & Place* 66(10): 24–46.

Hassan R, Sanders T, Gichuna S, et al. (2023) Informal settlements, COVID-19 and sex workers in Kenya. *Urban Studies* 60(8): 1483–1496.

Hesse M and Rafferty M (2020) Relational cities disrupted: Reflections on the particular geographies of COVID-19 for small but global urbanisation in Dublin, Ireland, and Luxembourg City, Luxembourg. *Tijdschrift voor economische en sociale geografie* 111(3): 451–464.

Hubbard P, Reades J and Walter H (2021) Shrinking homes, COVID-19 and the challenge of homeworking. *Town Planning Review* 92(1): 3–10.

Hucko M (2023) Fickle spheres: The constant re/construction of the private and other new habits. *Urban Studies* 60(8): 1497–1508.

Joy M, Hobbs FR, Bernal JL, et al. (2020) Excess mortality in the first COVID pandemic peak: Cross-sectional analyses of the impact of age, sex, ethnicity, household size, and long-term conditions in people of known SARS-CoV-2 status in England. *British Journal of General Practice* 70(701): e890–e898.

Kato H and Takizawa A (2022) Impact of the urban exodus triggered by the COVID-19 pandemic on the shrinking cities of the Osaka Metropolitan Area. *Sustainability* 14(3): 1601.

King K and Dickinson J (2023) Nearby nature in lockdown: Practices and affordances for

leisure in urban green spaces. *Leisure Studies* 43(1): 100–117.

Kuebart A and Stabler M (2020) Infectious diseases as socio-spatial processes: The COVID-19 outbreak in Germany. *Tijdschrift voor economische en sociale geografie* 111(3): 482–496.

Lai KY, Webster C, Kumari S, et al. (2020) The nature of cities and the Covid-19 pandemic. *Current Opinion in Environmental Sustainability* 46: 27–31.

Legeby A, Koch D, Duarte F, et al. (2023) New urban habits in Stockholm following COVID-19. *Urban Studies* 60(8): 1448–1464.

Luo S, Xie J and Furuya K (2021) "We need such a space": Residents' motives for visiting urban green spaces during the COVID-19 pandemic. *Sustainability* 13(12): 6806.

Madden D (2020) The urban process under covid capitalism. *City* 24(5–6): 677–680.

Martínez L and Short JR (2021) The pandemic city: Urban issues in the time of COVID-19. *Sustainability* 13(6): 3295.

McLafferty S (2010). Placing pandemics: Geographical dimensions of vulnerability and spread. *Eurasian geography and Economics* 51(2): 143–161.

Nathan M (2023) The city and the virus. *Urban Studies* 60(8): 1346–1364.

Njoku AU (2021) COVID-19 and environmental racism: Challenges and recommendations. *European Journal of Environment and Public Health* 5(2): em0079.

Pohl L (2022) The empty city: COVID-19 and the apocalyptic imagination. *City* 26(4): 706–722.

Pratt AC (2020) COVID–19 impacts cities, cultures and societies. *City, Culture and Society* 21: 100341.

Rastandeh A and Jarchow M (2021) Urbanization and biodiversity loss in the post-COVID-19 era: complex challenges and possible solutions. *Cities & Health* 5(sup1): S37–S40.

Robb CE, De Jager CA, Ahmadi-Abhari S, et al. (2020) Associations of social isolation with anxiety and depression during the early COVID-19 pandemic: A survey of older adults in London, UK. *Frontiers in Psychiatry* 11: 591120.

Robinson J (2013) *Ordinary Cities: Between Modernity and Development*. Abingdon and New York, NY: Routledge.

Rosenthal SS, Strange WC and Urrego JA (2022) JUE insight: Are city centers losing their appeal? Commercial real estate, urban spatial structure, and COVID-19. *Journal of Urban Economics* 127: 103381.

Ruprecht MM, Wang X, Johnson AK, et al. (2021) Evidence of social and structural COVID-19 disparities by sexual orientation, gender identity, and race/ethnicity in an urban environment. *Journal of Urban Health* 98(1): 27–40.

Sapra I and Nayak BP (2021) The protracted exodus of migrants from Hyderabad in the time of COVID-19. *Journal of Social and Economic Development* 23(2): 398–413.

Sassen S (2001) *The Global City: New York, London, Tokyo*. Princeton, NJ: Princeton University Press.

Searle A, Turnbull J and Lorimer J (2021) After the anthropause: Lockdown lessons for more-than-human geographies. *The Geographical Journal* 187(1): 69–77.

Sharifi A and Khavarian-Garmsir AR (2020) The COVID-19 pandemic: Impacts on cities and major lessons for urban planning, design, and management. *Science of the Total Environment* 749: 142391.

Shearmur R, Ananian P, Lachapelle U, et al. (2021) Towards a post-COVID geography of economic activity: Using probability spaces to decipher Montreal's changing workscapes. *Urban Studies* 59(10): 2053–2075.

Sparke M and Williams OD (2022) Neoliberal disease: COVID-19, co-pathogenesis and global health insecurities. *Environment and Planning A: Economy and Space* 54(1): 15–32.

Trasberg T and Cheshire J (2023) Spatial and social disparities in the decline of activities during the COVID-19 lockdown in Greater London. *Urban Studies* 60(8): 1427–1447.

Whitaker SD (2021) Did the COVID-19 pandemic cause an urban exodus? Federal Reserve Bank of Cleveland. *Cfed District Data Briefs*. DOI: 10.26509/frbc-ddb-20210205.

World Health Organization (2023) Coronavirus (COV-19) Dashboard. Available at https://covid19.who.int/ (accessed 16 March 2023).

Zhai W, Fu X, Liu M, et al. (2023) The impact of ethnic segregation on neighbourhood-level social distancing in the United States amid the early outbreak of COVID-19. *Urban Studies* 60(8): 1403–1426.