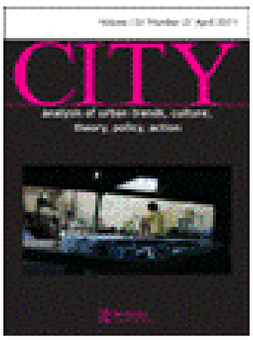
Article:
Simon, D., Arano, A., Cammisa, M. et al. (8 more authors) (2021) Cities coping with COVID-19: comparative perspectives. City. ISSN 1360-4813

https://doi.org/10.1080/13604813.2021.1894012



City

Analysis of Urban Change, Theory, Action

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/ccit20

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To cite this article: David Simon, Angeles Arano, Mariana Cammisa, Beth Perry, Sara Pettersson, Jan Riise, Sandra Valencia, Michael Oloko, Tarun Sharma, Yutika Vora & Warren Smit (2021): Cities coping with COVID-19, City, DOI: 10.1080/13604813.2021.1894012

To link to this article: https://doi.org/10.1080/13604813.2021.1894012

Published online: 29 Mar 2021.

Routledge
Taylor & Francis Group

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Introduction

David Simon

This Symposium represents an experimental format within CITY, as the latest part of the relaunched journal's efforts to diversify its contents and attract new readers, especially among communities of practice engaged in urban governance, policy and practice. As such, it provides rapid publication of insights intended to inform ongoing debate and crisis responses as cities everywhere grapple with the profound consequences of the pandemic and its implications for so many facets of urban 'business as usual'.

For the final four years of its existence, Mistra Urban Futures, the leading international research centre on urban sustainability, based in Gothenburg, Sweden, pioneered the extension of its renowned transdisciplinary co-creation/co-production methods to cross-city comparative research embracing up to seven diverse cities in different world regions (Simon, Palmer, and Riise 2020). These cities are Gothenburg and Malmö in Sweden, Sheffield and Greater Manchester in the UK, Cape Town in South Africa, Kisumu in Kenya, Buenos Aires in Argentina and Shimla in northern India. Although the experimental research projects formally ended in December 2019, 2020 was a consolidation year with continuation funding from the Swedish International Development Cooperation Agency (Sida) to maximise outputs and other added value through dissemination and engagement with global agendas.

The largest experimental project utilised transdisciplinary co-production methods to examine how seven diverse cities on four continents responded

URL https://doi.org/10.1080/13604813.2021.1894012

Figure 1: The 17 SDGs adopted in 2015 as part of Agenda 2030 (Source: United Nations).

to and engaged with the 2015–16 global sustainable development agenda, comprising especially Sustainable Development Goal (SDG) 11 and the New Urban Agenda (NUA). These comprise the specifically urban components of the global agenda, providing aspirational commitments, goals, targets and indicators to promote urban sustainability with equity – expressed as 'leaving no-one behind'. Responses from the cities were diverse, ranging from low engagement because of a lack of guidance from national government and because existing local indicators were deemed adequate (Sheffield) to enthusiasm to enhance engagement with national government and in order to align activities and reporting to global indicators (Cape Town) and a valuable opportunity to update, rethink and systematise service delivery and public investment priorities (Kisumu) (Simon et al. 2016; Valencia et al. 2019, 2020).

The 17 SDGs (Figure 1) have a 15-year lifespan (2016-2030) and were designed as more comprehensive and integrated successors to the eight Millennium Development Goals (MDGs), which ran from 2001-2015. Each Goal comprises a set of targets, which in turn have one or more indicators against which progress is to be measured annually or some other interval. In contrast to the rapid, top-down way in which the MDGs had been conceived and imposed on low- and middle-income countries, the SDGs were designed through a broad, global and remarkably inclusive process of consultation and negotiation over three years and apply to all countries. The UN statistical unit in the Division of Economic and Social Affairs (UN-DESA) has ultimate responsibility and undertakes ongoing monitoring and revisions in the light of feedback received, including from the Mistra Urban Futures projects. The NUA underwent a similar formative process, and is a broad, visioning and aspirational document, in part because the originally intended direct link to the SDGs as its monitoring and evaluation framework was not politically acceptable to many national

governments. Naturally, the framing of both Agenda 2030 and the NUA, and the choices of SDG targets and indicators, were contested and ultimately represent trade-offs between optimality, practicability within constraints of widespread data availability (so that most cities and countries can report on them) and the resource implications of implementation, and political acceptability to UN member states. These issues are explored in a growing critical literature that evaluates various aspects of the 2030 agenda and of individual goals, targets and indicators, including practicability, cost effectiveness, risks of selective cherry picking to use the progress reviews instrumentally for political expediency rather than as a mechanism to drive substantive progressive change, and hence the likely effectiveness of the SDGs overall as a means to drive substantive change (e.g. Arfvidsson et al. 2017; Barnett and Parnell 2016; Garschagen et al. 2018; Hansson, Simon, and Arfvidsson 2019; Klopp and Petretta 2017; McGranahan, Schensul, and Singh 2016; Parnell 2016; Patel et al. 2017; Rudd et al. 2018; Sánchez Gassen, Penje, and Slätmo 2018; Simon et al. 2016; Sustainable Development Solutions Network 2020; Valencia et al. 2019, 2020).

Against this background, we discussed how interesting and valuable it would be to explore how these diverse cities that had participated in the SDG/NUA project were being impacted by COVID-19 and how they and their respective national and state/provincial governments responded in the context of their sustainable development commitments. The upshot was a session of the UN-Habitat's World Urban Campaign's online COVID-19 Urban Thinkers Campus (UTC #23) on July 23, 2020 entitled 'Urban responses to COVID-19' and focusing on 'comparing urban responses to the pandemic in order to understand and analyse local differences with the objective to better prepare for future challenges by evidence-based policy-making.' The Sheffield—Manchester team focused on the latter city, while the Malmö team were unable to participate. Along with this introduction and global survey of the urban ravages of the coronavirus, the webinar contributions have now been written up, updated and melded into a symposium that provides insights into the challenges posed by the coronavirus to multiple facets of (urban) existence around the world.

As key contextual information at the national level, Table 1 presents the latest pandemic data (early January 2021) for the six countries in which the cities discussed are located. Because different sources sometimes report quite diverse data for the same countries, according to the variables and underlying basis of calculations in each case, we have used the same sources in order to ensure standardisation. The data are striking and reveal clearly that the death rates per million are lowest in India and Kenya, the two countries with lowest gross national income (GNI) per capita and Human Development Index (HDI) scores, and also the lowest levels of urbanisation and most rapid current urbanisation rates. This is consistent with the evidence, as discussed below, that the pandemic has, to date, been manifested most starkly in urban areas. Hence, overall, urban areas appear more vulnerable to the spread of the coronavirus (and many other viruses) on account of large, dense population concentrations, high levels of proximity and mobility (e.g. Bettencourt et al. 2007), and hence the ease of contagious transmission.

In the more detailed analysis below, attention turns to the strong patterns of inequality that quickly emerged, especially at the urban and intra-urban scales, and to an exploration of the drivers and explanatory factors underlying the complexity.

Table 1: COVID-19 deaths, urban population, urbanisation rate, HDI and GNI/capita*

Country	Deaths	Deaths per million population	Urban population, %	Urbanisation rate, %, est 2015–2020	Human Development Index 2019 (rank)	GNI/capita, USD
Argentina	43,634	961	92.1	1.07	0.845 (46)	21,190
India	149,886	108	46.1	4.23	0.645 (131)	6,681
Kenya	1,686	31	28	4.23	0.601 (143)	3,457
South Africa	30,011	503	67.4	1.97	0.709 (114)	12,129
Sweden	8,727	861	88	1.05	0.945 (7)	54,508
United Kingdom	75,431	1,108	83.9	0.89	0.932 (13)	46,071

*Compiled by Jan Riise
Sources:
1. deaths and deaths per million: www.worldometers.info (January 5, 2021)
2. urban population and urbanisation rate: CIA World Factbook, accessed from Wikipedia, January 5, 2021 (https://en.wikipedia.org/wiki/Urbanization_by_country)
3. HDI and GNI/capita: UNDP 2020 Human Development Report, accessed from http://hdr.undp.org/en/content/latest-human-development-index-ranking January 5, 2021

The analysis draws on, and as far as possible seeks to triangulate across, diverse sources of evidence from around the world. This is illustrated with reports on the experiences of the diverse cities where Mistra Urban Futures has been working, written by key team members on the ground in each case. In so doing, it speaks to some of the ideas articulated in David Madden's (2020) recent editorial in this journal, 'The urban process under covid capitalism', and develops several others.

Analysis

David Simon

As the pandemic took hold more widely in February—March 2020, it rapidly became clear that particular groups of people were more likely to contract COVID-19 and to become more severely ill and have a higher risk of death than others. This was true at all scales, including the urban and intra-urban. In other words, the impact of coronavirus was neither uniform nor random. Already by mid-April, it was clear that concerns about higher morbidity and mortality rates among Black, Asian and Minority Ethnic (BAME) groups in the UK and Europe, African-Americans and BIPOCs (Black, Indigenous, People of Colour) in the USA and other minorities and marginalised groups elsewhere were well founded. Rather than resulting from any particular genetic predisposition, however, the sources of vulnerability were largely contextual, environmental, social and behavioural.

First, such minorities and marginalised groups are commonly overrepresented in frontline health care and other high-risk public-facing jobs such as public transport drivers, where exposure and inadequate personal protective equipment

(PPE) were common during the first wave. Second, the pandemiology followed and rapidly exposed the structural fault lines of inequality and risk in urban areas. Morbidity and mortality were disproportionately concentrated among large and multi-generational households—often a common feature in the global South and amongst minority and immigrant groups in the global North—and also in dense, cramped and also low-quality or sub-standard housing in poorer inner city or peripheral low-income areas (Simon 2020).

Such areas commonly lack adequate public open space or other recreational facilities, and have poorer quality amenities and public utilities, including water, sanitation and solid waste removal services. Again, minorities and other marginalised groups in many cities and societies are disproportionately concentrated in such areas. In cities in member countries of the Organization for Economic Co-operation and Development (OECD), as with the Gothenburg and Greater Manchester cases profiled in this symposium (see below), such highly vulnerable areas and communities may represent a minority of residents. Conversely, in low- and lower-middle income countries, they often constitute the urban majority—inhabiting areas of sub-standard and/or informal and irregular housing.[1] Residents of these areas are also more likely to have low household incomes, experience higher levels of un- or underemployment, suffer from relative or absolute poverty, have poor diets, be obese and suffer from underlying health conditions.[2] Together, these amount to a cocktail of risk factors substantially increasing vulnerability to COVID-19 and intensifying the severity of its impact if contracted. Many of these variables will have been adversely affected by the pandemic, exacerbating such vulnerabilities, and urban inequalities more broadly (Acuto et al. 2020; Simon 2020). A recent report from Hong Kong, for instance, highlights how the lockdown there has exacerbated existing inequalities (*New York Times* 2021a). Reflecting this important distinction between the extent of structural poverty and inequality between the two OECD cities covered by this study, and those in middle- and low-income countries, we have profiled Gothenburg and Greater Manchester here, while the other case studies appear below where parts of the broad argument have particular local relevance.

Gothenburg (Sweden)

Sara Pettersson, Jan Riise and Sandra Valencia

Initially, government responses to the pandemic took place at the national level, such as a national ban on visiting the elderly in retirement homes, a ban on public gatherings of 50 people or more, and rules to prevent crowding in restaurants. There were also various national recommendations. Colleges and universities were recommended to practice distance learning, companies were encouraged to allow remote working, if possible. In general, the population was strongly recommended to stay home if they presented symptoms, wash hands and keep social distance—by avoiding public transport, for example. The national parliament has approved several economic crisis packages to different sectors, including significantly increased contributions to municipalities to reduce the effects of the pandemic at the local level.

Almost 70% of total deaths are of people over the age of 80. It is important to note, that in contrast to other countries, Sweden did not impose lockdowns and most pandemic directives were in the form of recommendations, rather than mandatory prescriptions. However, in the early stages of the pandemic (spring of 2020), the recommendations were emphatic, particularly for the population over the age of 70, which resulted in their isolation as they were encouraged not to meet with children and grandchildren.

Sweden's distinctive policy response

Unlike other countries, interventions were based on public trust in authorities; Swedes were expected to follow recommendations such as distancing, sanitation and staying at home (Metcalfe et al. 2020).

Lockdowns, as seen in other parts of the world, are not really possible in terms of the Swedish law. There are no mechanisms to limit citizens' peacetime rights and freedoms in the Swedish constitution. The Government and the Parliament were until late 2020 hesitant to restrict these rights and freedoms by new laws, as this would have extended the powers of the Government to unprecedented and unwanted levels. Changing the constitution is not really an option as it is a time-consuming process that needs the acceptance of two parliaments with a general election between.

However, in view of the second wave's number of cases and deaths, a temporary 'pandemic law' was passed by the Parliament in early January 2021, effective from 10 January to end of September 2021. Among other restrictions, shops, gyms, restaurants and similar public places now have to post the maximum number of persons allowed inside, based on the available area (Regeringskansliet 2021).

During late 2020 more recommendations and restrictions were issued on a regional level, instead of national level, and in that way more adapted to the regional situation regarding the pandemic. The regional recommendations are, for example: refrain from indoor environments where people gather, refrain from contact with people outside your household, refrain from gatherings, concerts, events, etc.—except for sports for children under 15.

Local impacts and responses

From a local perspective, the pandemic has influenced the situation in the City of Gothenburg in several different ways. Given the number of deaths and the ban on visits, it has had a strong effect on elderly care. The city therefore has ordered an external review of how the elderly care situation was handled. The City's Gymnasia (secondary schools for people over 15) also had to quickly adapt to distance education. Computers are provided to the students by the schools and most households have internet, so issues of unequal access to technology have been limited in Sweden.

To prevent crowding, the public were recommended to avoid public transport unless necessary and urged to keep a safe distance. Drivers were protected by blocking the seats closest to them. By late 2020, travel by public transportation was down by about 40% compared to previous recent years. Car parking charges were reduced to encourage work travel by car instead of public transport. Other charges, including fees for using public space, for example, for

Figure 2: Temporary bike-lanes, free rental-bikes, more pedestrian space and significantly reduced parking fees were some of the measures taken by the City of Gothenburg to promote other means of commuting than crowded public trams and buses. Image credit: Trafik Göteborg.

temporary market stalls or outdoor cafés and restaurants were reduced to zero, to support local businesses (Figure 2).

Some actions were taken to prevent evictions both of private households and businesses. For example, the municipality's property management company granted rent discounts for some tenants. The tourism sector, as well as other economic sectors, have been significantly impacted by the pandemic.

As mentioned earlier, Swedish municipalities have received substantial extra funds from the national parliament to handle the local situation. In June the City Board decided to allocate these extra funds to committees responsible for functions such as elderly care, home care, schools and preschools. In addition to the general support to municipalities by the Swedish state, a range of support schemes have been directed towards specific areas such as culture, sports, and organisations working with children's rights and protection against domestic violence.

It is still too early to say how the pandemic will affect sustainable development in the long term. However, national studies and local statistics show that socially disadvantaged areas, such as Hammarkullen and Angered in the northern part of the city, where immigrants account for a large proportion of the population, were more severely affected initially. Spatially, in Gothenburg, these areas are relatively far and isolated from the central nodes of the city.

Immigrants most severely affected

Immigrants' knowledge of and fluency in Swedish varies considerably; it takes time to learn and the incentives to do so are not always immediately given. It was

noted quite early that a Somali community in these areas was hit significantly harder by the coronavirus than other groups. A major reason was the initial lack of crisis information in languages other than Swedish. Furthermore, the consumption of news is lower and also more focused on social and international media within the immigrant groups (Esaiasson et al. 2020).

Immigrants, in particular people from outside Europe, are disproportionately concentrated in overcrowded apartments or houses: one in three immigrants compared to only 2 per cent of those born in Sweden with at least one Swedish parent. (SCB 2019). As discussed in the main text, the connection between overcrowded living and respiratory infections is well-known and was included in the recommendations regarding communication in other languages (Jakobsson et al. 2020).

However, since the second wave hit the country at the end of 2020, the incidence rate in Gothenburg's different city districts has levelled out considerably. More cases have now been recorded in the better-off neighbourhoods than in the areas with lower socio-economic status. This does not necessarily reflect actual incidence but might be a consequence of more tests being carried out. Although aiming to be equally accessible for all, health care provision is in general unevenly distributed, with citizens of lower socio-economic status receiving less and higher income groups receiving more primary health care (Regeringskansliet 2018).

Impact on the SDG agenda

As the pandemic is ongoing and the situation locally as well as nationally continuing to change, it is too early to draw any conclusions on the long-term effects on progress towards the Sustainable Development Goals. As an active member state of the United Nations, Sweden understands the global challenges of COVID-19: the risks of increased poverty, lack of education, equality measured, for example as the proportion of girls coming back to school, and public health issues. Nationally, unemployment is probably the most discussed issue. However, social services assess that the effects on the long-term situation of the labour market will become evident at the earliest in the Swedish spring 2021; the expected lower municipal tax income as a result of unemployment did not become as apparent as expected in 2020.

The larger cities in Sweden all have charities called 'Stadsmissionen' (city missions), helping people with very low or no income and the homeless with food and shelter. In the last few months of 2020, the charities reported that more families with school children need support as the young students are no longer able to eat daily meals at school. The number of families seeking help with food and Christmas gifts in December more or less doubled compared to previous years (Sveriges Radio 2020a, 2020b).

Homeless people in the city usually have places to go to for a hot meal and to be indoors for a while, run by Stadsmissionen and other charities. Some also offer beds, but these charities have had to reduce the number of visitors or even close these places to minimise the risks. Especially in wintertime with temperatures far below 0°C, homelessness is a serious health issue and the charities' contributions are important. This winter, 2020–2021, they have changed their services to handing out food packages and sleeping bags for outdoor sleeping.

Macro-economic implications

Sweden's economy is dependent on exports, which makes the country vulnerable to the measures taken in other countries as well. Gothenburg is even more internationally connected; compared to the two other larger cities, Stockholm and Malmö, Gothenburg has substantial net exports while the others have net imports. This has to do with the city's traditional role as the country's industrial hub (not least as headquarters of transnational firms like Volvo, SKF and others) and major port, whereas the other cities are more service and public service oriented.

Sweden's export as a share of GDP is about the OECD average, with the EU and USA as important markets. The Swedish Riksbank (Sweden's Central Bank) expects employment and hours worked to decrease in 2021. However, relative to other countries, Swedish restrictions due to the virus have been less severe and the Swedish state finances have been strong (Sveriges Riksbank 2020, 2021), making significant support to municipalities (see above), industry and other sectors possible. Furthermore, Sweden is less dependent on international tourism than many other countries, which has made this sector less vulnerable—though the effects should not be underestimated; a large number of businesses in restaurants, hotels and travel report considerable negative effects.

As the pandemic continues and calls into question the city planning *status quo*, a few questions can be raised: What will future mobility patterns look like? Is it fair to assume that working from home will be considerably more frequent, at least one or two days per week? What is the future of large events for culture and businesses? How can city governments better address health crises, like the coronavirus, while avoiding unintended family and social consequences? There have been media reports that the number of police cases about domestic violence is up around 50% compared with 2019 (*Göteborgs-Posten* 2021).

On a macro-level other questions include what possibilities and challenges will the fast digitization of society open up? How do we turn this crisis into an opportunity for a green and sustainable restart?

Greater Manchester (United Kingdom)

Beth Perry

Following the confirmation of the UK's first case of COVID-19 on 31 January 2020, a legislatively enacted national lockdown was declared on 23 March. By May, a gradual easing of lockdown began, to be followed by an increasingly spatially-variegated approach. In June the first local lockdown imposed by national government was declared in the city of Leicester, which catalysed local pre-emptive action in other districts, including in Greater Manchester (GM), as local councils sought to stave off nationally-imposed local lockdown measures (see below). Greater Manchester is a city region comprising ten local authorities; the strategic Greater Manchester Combined Authority (GMCA) was established in 2011 as part of England's devolution arrangements.

By July 2020, increasing swathes of the North were placed under restrictions, and in GM a major incident was declared in August after a rise in COVID rates. This pattern of nationally-imposed local lockdowns continued throughout

September, with areas entering (but rarely leaving) greater restrictions. Rather than a piecemeal and fragmented approach to local lockdowns, whole counties and city regions moved in and out of different tiers with frequent reviews. A second national lockdown was imposed from 5 November to 2 December 2020, followed by a return to the tier system and, in mid-December, the introduction of a new tier 4 for London and the South East to contain the new, more transmissible variant. A new national lockdown was announced in England on 4 January 2021.

By 17 January 2021, total UK deaths reached 89,243 alongside the fifth highest number of confirmed cases in the world. Like all countries, rather than a great leveller, COVID has, rather unsurprisingly, revealed a 'pre-existing pandemic of poverty that benefits the rich' (*Guardian* 2020a). In England, black and ethnic minorities, those with disabilities and pre-existing health conditions and those living in lower income neighbourhoods are both more likely to contract the virus and to be impacted more severely by the pandemic (see also Madden 2020). This spatial unfolding of the pandemic has been shaped by devolution and by austerity policies of successive Conservative governments.

The UK is heavily centralised, with limited devolution to Scotland, Wales and Northern Ireland since the late 1990s. The election of the Coalition government in 2010 was followed by greater devolution to English city-regions. 'City Deals' were negotiated with different metropolitan areas willing to accept certain centrally-imposed conditions, such as the direct election of a 'Metro Mayor'. Greater Manchester was one of the first areas to have a City Deal, leading to a new 'Combined Authority' across the ten districts of Manchester, Salford, Trafford, Oldham, Rochdale, Bury, Wigan, Tameside, Bolton and Stockport. Andy Burnham, a former government minister and Labour Party leadership candidate, won the 2016 mayoral elections to become the city-region's first Metro Mayor, with increased powers and responsibility over transport, housing, spatial planning and health and social care. However, dubbed a 'devolution deception' (Hambleton 2017), such powers have done little to address concerns about an overly centralised state.

Local responses

It is unsurprising, therefore, that responses to COVID-19 have been characterised by top-down command-and-control. Local authorities have not been taken seriously as partners in the response; despite the need for strong sub-national level data, local health expertise was initially shunned and public health teams not given the information needed to constitute strategic intelligence (Pollock and Roderick 2020).

From April 2020 city-regional mayors in Greater Manchester, Liverpool and Sheffield were increasingly vociferous, using their platforms to highlight the need for greater knowledge, information and data at a local level (*Guardian* 2020b, 2020c). Yet the introduction of limited new lockdown powers was accompanied by greater powers of intervention for national government (George 2020). Criticisms that the national response to COVID-19 was too driven by London-based concerns (Charara 2020; Hill 2020) were endorsed by a House of Lords report in November, which argued for further localisation of powers, especially in relation to devolution and social care (House of Lords 2020) (Figure 3).

Figure 3: Photo of street art in Manchester, England, depicting Prime Boris Johnson which reads 'The Eton Mess', a reference to Boris Johnson's private school education in Eton, in the context of perceptions of a London-centric approach to pandemic management and conflicts between leaders of several northern cities and the UK Government over the terms of localised restrictions. Image credit: Jon Silver

The last ten years have also been described as an era of 'super austerity' (Lowndes and Gardner 2016), with significant reductions in public funding since 2010. Prior to COVID-19, the UK2070 Commission (Home The UK2070

Commission) had highlighted the extent of existing regional spatial inequalities in the UK, with jobs growth, for instance, in London and the South East twice that of the North in the last 10 years. It is equally unsurprising, therefore, that COVID-19 has had strongly spatialised impacts (Bambra et al. 2020; *Guardian* 2020d). In May 2020 mortality rates in areas of the North, such as Manchester, Stockport and Wigan, were 10% higher than the national average and figures from the Office for National Statistics (ONS) indicated that those in the poorest areas were twice as likely to die (King's Fund 2020). In the meantime, local authorities, already short of funds, were concerned they would 'go bust' with the new costs required to respond to COVID-19 (*Guardian* 2020e). A survey of 132 serving chief executives of local authorities in England (SOLACE 2020) found that around a fifth of councils did not have sufficient resources to match their spending needs.

Deprivation and inequality as driver

At the beginning of 2020, GM already had one of the lowest life expectancies in England (Institute of Health Equity 2020), with many in low-income neighbourhoods struggling from decades of austerity policies. Indeed, commissioned surveys have confirmed that the pandemic's impacts in the city-region follow the pattern of exacerbating inequalities seen nationally (*BMG Research* 2020); these are also consistent with the global evidence of links between urban inequality, poverty and the impact of the pandemic set out above. Already in June 2020, the cost of the impact of the virus and the associated actions taken to manage the pandemic was predicted to be in the region of £732 m by the end of 2020/21 (GMCA 2020a). Yet it is for the political negotiations with central government that the city-region has gained most prominence.

The Greater Manchester Mayor was one of the most vocal in challenging central government, using the platform, if not the powers, provided by devolution to argue for greater measures to reduce hardship for those most affected by the pandemic (GMCA 2020b). It was this, rather than contesting the tier system itself, that lay behind Andy Burnham's appeal to central government not to 'sacrifice jobs and businesses here to try and save them elsewhere' (GMCA 2020c). Overnight, the language shifted from the city-region standing ready to work in partnership, to fighting back against centralised control, as it had become clear through last-minute announcements rather than meaningful engagement that central government did not regard city regions as equal partners. This experience, in turn, led the government later to emphatically state there would be 'no negotiation' about local tiers of COVID-19 restrictions (Calkin 2020).

Greater Manchester's own response has received far less attention. Building on a history of partnership, the city-region launched the Greater Manchester COVID-19 Emergency Committee—a multi-agency group to help coordinate Greater Manchester's efforts to combat the pandemic. Most recently, this has involved weekly online briefings shared via YouTube. The Greater Manchester 'Living with COVID' plan (GMCA 2020d) highlights key themes designed to shape responses to the pandemic across policy areas: inequalities/poverty; safety; co-design, civil society and social infrastructure;

building a confident city-region; resilience; recovery in line with strategic priorities and behaviour change.

The GMCA document highlights three kinds of impacts: 1) significant and devastating impacts, 2) challenging but manageable impacts, and 3) positive impacts to be reinforced. In the latter category, a number of issues are highlighted including new community networks, multi-agency networks, locally controlled and devolved resources, partnerships and the digital shift. This means a re-prioritisation on areas such as cycling and walking, integrated public transport, clean air, the environment, sustaining mutual aid networks and the GM Good Employment Charter, for instance. There is some evidence of the GMCA seeking to learn about broader governance issues, highlighting what aspects of the GM machinery need reform (Innovation Unit 2020). However, other research highlights concerns that the city-region is not yet ready for the radical shift in power and ways of working that more co-productive approaches would entail (Perry, Durose, and Richardson 2019).

Local policy responses

Greater Manchester and Liverpool Local Economic Partnerships (LEPs) have initiated a campaign called 'Build Back Better', which could offer some hope, if we dare, that more progressive alternatives for the economy or society could get more airtime in future. Whilst Greater Manchester has often been seen as the 'poster child' of entrepreneurialism (Deas 2014) and neoliberal growth economics, the GM LEP document contains previously to-be-dreamt-of references—from the fact that 'deep down we probably knew that' the current model does not work (GM LEP 2020), to reference to the foundational economy[3] and importance of the living wage (Foundational Economy Collective 2018). Whilst many may doubt how this will impact on policy and practice—on the basis of history, path dependency and the fact that 'economic policy has for too long been undertaken predominantly by 'experts', rather than engaging directly with the people affected' (Westall 2020, 4)—there are other signs of a shift to centre the goals at the heart of the sustainable development agenda, including ending poverty, food hunger and homelessness. For instance, the Greater Manchester COVID-19 Emergency Committee urgently responded to the crisis with a £5 m fund to house 1,000 rough sleepers in hotels, and more recently, local press has reported that rough sleepers in Oldham have been given priority for vaccination. In the context of the Living with COVID plan, the establishment of the GM Independent Inequalities Commission in July 2020 is a sign of hope, with its agenda to better understand the pre-existing and emerging inequalities in the city-region.

Impact on SDG agenda

What does this mean for the SDGs? These were already low on the agenda in the UK, given uncertain national commitment, a lack of local capacity and a low awareness and perception of the relevance of the SDGs amongst English local authorities (Diprose et al. 2019). Whilst local government-oriented media have extensive coverage of COVID-19 and its implications, there has been precious little commentary on the SDGs, despite some early exhortations from business leaders to place SDGs at the heart of national recovery (*Guardian* 2020f).

There is mixed evidence on what impact the global pandemic has had on the SDG agenda. Despite Greater Manchester not working with the SDGs explicitly, some signs indicate that COVID has furthered a sustainability agenda. Within work on local economic strategy, and building on partnerships with the Voluntary, Community and Social Enterprise (VCSE) sector and organisations such as the GM Cooperatives Commission, there are louder voices arguing for a more equal and just economic policy. The crisis has viscerally revealed interconnections between agendas on health, economy and public space, with work in the GM Low Carbon Hub emphasising more strongly than before where there are mutual sustainability wins. At the same time, for many in neighbourhoods, the celebration of mutual aid networks is a double-edged sword: without resources, a genuine commitment to reducing poverty or any real redistribution of power, it increases the burden of care on those least well placed to bear it (*The Meteor* 2020a, 2020b).

What the pandemic reveals, moreover, is the impact of the current central-local settlement on the capacity and capability of places to respond and develop localised, participatory recovery strategies and plans. Whilst SDG11 focuses on towns and cities, SDG16 (see Figure 1) draws attention to the wider conditions and governance requirements for meaningful participation and civil society engagement. English local authorities lack the data, intelligence, powers, levers and resources to develop context-sensitive approaches that can fully realise a SDG agenda. Whilst much innovation can be found in local responses, without addressing the wider devolution question—and redressing the inequities wrought by decades of austerity—the distance to reach the goals remains great.

Analysis

David Simon

Recent studies showing, for example, that middle class urban households in the USA have been more successful in maintaining physical distancing as a protective strategy than their poorer counterparts (Jay et al. 2020), merely confirm the structurally embedded nature of social inequality. At the city scale, the extensive overall economic impact of the pandemic on New York City, and on its retail sector in particular, has been well documented (Parrott and Moe 2020; Parrott and Lewandowski 2020). Conversely, various evocative accounts from around the world have also documented the class, ethnic and other social cleavages in, and the diversity of, individual experiences of the pandemic and the costs to them and their households (e.g. Arabindoo 2020; Gupte 2020; *The Nature of Cities* 2020).

All of this, in turn, reflects and highlights the urban ecologies of risk and vulnerability on the one hand, and relative resilience on the other. From this perspective, it is important to look beyond the overwhelming immediate details to uncover and understand the underlying structural inequalities and fault lines in any given town or city that must be addressed if similar public health emergencies and other disasters are to be anticipated and their impacts minimised. Put differently, COVID exceptionalism[4] is unhelpful and we need

to search for deeper sources and causes. Just as research on historical epi- and pandemics of influenza and cholera, in particular, proved crucial in dispelling urban myths or panics and enabling effective interventions (Craig 1988; Swanson 1977; Simon 2020), the vast literature and corpus of good practice in early warning, disaster risk reduction and climate change adaptation strategies provides a valuable framework within which to ground preventative strategies (UNDRR 2020; UN-Habitat 2020a).

This is certainly a reflection of class structure—including access to formal education and appropriate employment opportunities—and the operation of broadly capitalist urban land and housing markets, with varying degrees of state regulation on quality in terms of minimum standards and safety (electric, water and sanitation supply and fire), resale, rent control and the like. However, comparable patterns of structural inequality also characterise state-owned and controlled urban housing systems. The challenge of urban inequality—not least in relation to health risk exposure on a chronic daily basis as well as in the face of epidemics and pandemics—is more fundamental.

The pandemic is far from over and a new wave—driven by apparently more transmissible (contagious) variants first detected in the UK and South Africa—is spreading rapidly as this is written at the turn of the years 2020-21. Although systematic evidence is not yet available, anecdotal reports from these two countries and also Sweden, suggest that the middle and upper classes are being more severely affected than in previous waves. Given all their material advantages and lower residential and domestic densities than the groups principally affected in the first wave(s), this implicates behavioural factors, such as a belief that they will not be affected as they have avoided infection up to now, general lockdown or restriction fatigue and/or a sense that with the advent of vaccines (just starting to be administered), the end of the pandemic is in sight.

That said, the evidence to date suggests that the most effective measures in containing and eliminating the coronavirus have been tough, early lockdowns accompanied by efficient testing and tracing of contacts as well as widespread wearing of masks, good hand hygiene and social/physical distancing. Good examples include Seoul, Singapore (*Cities Today* 2020a, 2020b), Auckland and Melbourne, as well as Wuhan and other Chinese cities after the initial outbreak had been contained.

However, relaxing initially quite successful lockdowns in South African and Indian cities, for instance, imposed at the cost of major economic and social hardship, let the genie out of the bottle because the virus had not been eliminated and poor people needed to earn a living. Collective mutual help action in informal areas, frequently in conjunction with NGO and aid agency assistance, has often been critical to maintain and enhance access to safe toilet and handwashing facilities to reduce the spread of the virus. In some cases, this is leading to improvements in highly deficient amenities and basic services (De Groot and Lemanski 2020; Franco et al. 2020; UN-Habitat 2020b; Wilkinson 2020) and hence promoting progress towards SDGs 3 and 6 in some of the most deficient urban localities. Conversely, even some of the initially successful cities mentioned above have recently been hit by renewed and larger outbreaks. This is very pertinent to the Kisumu, Cape Town, urban Indian and to some extent Buenos Aires cases examined in this symposium (see below).

Kisumu (Kenya)

Michael Oloko

The first case of COVID-19 was reported in Kenya on 13th March 2020, and the government swiftly responded by banning all public gatherings and closing all schools and tertiary learning institutions. Within less than two weeks the government further imposed dusk-to-dawn curfews in the country followed by partial lockdowns of four counties including Nairobi, Mombasa, Kilifi and Kwale, which had the highest infection rates.

In enforcing these measures, police clashed with citizens in many instances all over the country. A number of people were killed by police during the dusk to dawn curfew (*Guardian* 2020g).

Economic impacts

Open markets and restaurants were closed, thus forcing traders to relocate to other places within residential areas, pursued by security officers who intervened whenever necessary to ensure the measures were correctly adhered to. In Kisumu, the centrally located Kibuye market—the largest open-air market in the region—was affected (Figure 4) and traders had to improvise other ways, e.g. makeshift markets like the so-called 'corona market' along the main Kondele—Nairobi arterial road, to sell their goods (*The Standard* 2020). The type and quantities of goods able to reach the market were also affected by the closure of the national borders and restrictions of movement—especially food supply into the city that is mainly delivered from other regions (Battersby 2020).

While these measures slowed the spread of the virus, they highlighted the difficult balance between protecting lives and livelihoods. There have been severe losses of jobs and livelihoods countrywide, not least due to the closing of restaurants and open markets. However, the government has since lifted some of the restrictions, even though the number of cases still is increasing. Within the city, informal traders have been deprived of their livelihood, while formal businesses have been allowed to continue trading. Within the informal settlements, keeping safe distances from other people is difficult, especially as restrictions on movement remain in place.

The peak of the first phase occurred towards the end of July, with the second phase commencing in mid-September 2020. In this second phase, Kenya has been recording higher numbers of daily new infections to the tune of over 1000, compared to less than 400 during the first phase.

COVID-19 has so far resulted in the loss of jobs, e.g. in private schools, tourism and the hotel industry, loss of business opportunities with the closure of open/informal markets and displacement of traders, reduced access to goods and services due to restrictions on movements. It has therefore affected almost all sectors of the economy, including tourism, construction industry, education, medical and business.

The Governor has since unveiled a task force, Kisumu Economic and Social Council (KECOSOC) to harness available resources in the County, including the city, to catalyse economic recovery with priority to the agriculture, food security and health sectors. A Covid-19 response fund committee was also established

Figure 4: Demolition of the Kibuye market in Kisumu during the COVID-19 lockdown period. Traders did not get an opportunity to salvage their goods because demolition occurred during the night-time curfew. As often in such circumstances, demolition was justified on public health grounds, with construction of a new formal market planned, but with scant regard for the assets and livelihoods of the affected traders. Image credit: John Chueya (Arina Youth Group).

to raise and manage funds for mitigating the adverse effects of the Coronavirus and floods, in a bid to promote socio-economic recovery in the whole county.

Education sector

This is one of the most severely affected sectors, with all schools closing in March 2020 and learners staying home for the rest of 2020. Many pregnancy cases have been reported among the girls, as has increased use of drugs by youth. Most teachers from the private institutions were laid off as their employers could not continue paying their salaries. Book and uniform sellers, as well as those engaged in daily transportation of learners also lost their jobs.

Some private schools started online tuition. Apart from paying for the tuition, the pupils were required to have computers and the data bundles for internet connections. Many parents could not afford this, especially in public schools which have since been closed except for the examination candidate classes that resumed learning in November 2020. All students in both primary and secondary schools in Kenya apart from Grade 4, Grade 8 and Form 1 V will lose a whole academic year when schools resume in January 2021.

As the learning institutions opened for the candidate classes, the ministry ensured adequate preparations on how to maintain social distancing in classrooms, library and all other facilities within learning institutions, hygiene

and sanitation to include water facilities for hand washing at every critical point, monitoring of temperatures and wearing of face masks at all times, maintenance of social distances at all times, having virtual classes (Republic of Kenya Ministry of Education 2020a).

Apart from necessary access to electricity, this requires investment in facilities for e-learning for virtual engagement (Mutisya and Makokha 2016), including computers, smart phones, internet facilities (e.g. modems and routers) and regular expenses for internet data bundles. Many poor families with children in primary, secondary as well as tertiary colleges will be frustrated and denied equal opportunities in education. This is an area where the government needs to intervene.

Since the institutions reopened, a number of teachers in schools and even lecturers in universities have lost their lives due to COVID-19, causing panic in these institutions. The institutions are encouraged to strictly observe the measures to stop the spread of the pandemic (Republic of Kenya Ministry of Education 2020b). However, this may be undermined by the varied infrastructure within the institutions and the level of investments in response to the pandemic.

Health sector

To date the medical sector has lost 30 workers as a result of COVID-19, 10 of them being specialist doctors. In November, medical workers issued a 21-day strike notice and demanded that the government provides them with standard and adequate personal protective equipment (PPE) and comprehensive medical insurance cover. They are therefore very cautious in handling patients visiting their facilities. Processes of observing measures for quarantine and social distancing, coupled with lack of standard PPE cause delays in attending to the COVID-19 suspected patients. This delay may mean loss of lives since patients are advised to move to other facilities if the one to which they seek admission is full.

Most Kenyans do not have medical insurance cover and are therefore unable to access health care on their own. Only about 50% of Kenyans benefit from the government subsidised National Health Insurance Fund (NHIF) which is mandatory for all formal workers. For the remaining 50%, medical insurance remains optional. With about 40% of Kenyans living below two US dollars per day, they cannot afford to pay for the premiums (Chuma and Maina 2012). This makes most Kenyans very vulnerable. Costs for managing/treating COVID-19 are substantial, and medical insurance companies are reluctant to pay the bills, making their beneficiaries even more vulnerable (Barasa et al. 2020), given that it is a pandemic and is excluded from cover under most policies.

With the second wave, almost all hospital beds are occupied. The health workers are overwhelmed and are also at risk of contracting COVID 19. Case numbers are increasing again and the future is uncertain. The government is not keen on another lockdown but encourages everyone to take care. In late November 2020, infections in Kenya stood at 81,656 with a steady rise and 1,441 deaths.

In Kisumu, the worst hit areas were Kondele, Obunga, Lolwe and Migosi, all of which lie within Kisumu Central Constituency and within 5 kilometres

from the CBD but are not necessarily informal settlements. Despite contact tracing, controlling human behaviour has been a challenge. Home-based care and isolation are encouraged as the health facilities have been overstretched.

Shelter and homelessness

Affordable housing is a priority and is considered as a human right as per Article 43 of chapter four of the Kenya constitution. In line with SDGs 1 (no poverty) and 11 (sustainable cities and communities), it implies the development of adequate, standardised and well-spaced houses with continuous supply of clean water and electricity. This is currently on course through the affordable housing programme, and a number of specific housing projects have been launched in Kisumu. However, it is not clear how low-income households will benefit as in Kisumu, 60% have no access to any form of housing finance due to irregular incomes, high interest rates, lack of down payment, lack of security, eligibility, etc. With the continued growth of Kenya's population, especially in urban centres, providing affordable housing is becoming a challenge.

The impact of houselessness/homelessness can result in expansion of slums and informal settlements with sub-standard housing structures and no access to basic services, e.g. clean water, sanitation, waste collection services etc. in Kisumu. A rising number of street families composed of both adults and children (*Star* 2019), has been noted. The demolition of illegal structures by the government for upgrading in Kisumu City may also render more persons homeless. They lack food and sleep in the streets, bus parks, dump sites or streets, with no access to water and sanitation. With nothing to eat some of them resort to begging or scavenging from waste bins (chokoras).

Planning department

Due to the lockdown and restrictions on movement and gatherings, a number of development activities were affected, delayed or postponed. All informal markets in the city had to be re-organised to find alternatives for the informal traders. The processing and approval of development applications by the City were also delayed, resulting in unapproved development works as well as illegal structures. Most efforts were directed towards essential services, of which approval of development plans was not included.

In consequence, particular development projects affected by non-availability of external consultants due to the lockdown restrictions include a feasibility study on Mass Bus Transport or Bus Rapid Transit System project; donor-funded projects like construction of markets, schools, a fire station and innovation centre by the Kenya Urban Support Program, and roads and infrastructure for the non-motorised transport (NMT) system. The Otonglo market scheme was also delayed as the mandatory public participation stage could not take place.

Effects on SDG Implementation

The SDGs had been mainstreamed in the CIDP and into the Annual Development Plan for implementation. COVID-19 diverted the attention towards containment measures as well as essential services. Overall, implementation of development activities that also included the elements of SDG 11 within development plans has been delayed.

Postscript: Current status 2 January 2021 (according to Presidential Release, 2 January 2021)

Although the national positivity rate continues to decline, the coronavirus pandemic remains a threat to health and livelihoods. All schools and learning institutions have fully reopened after nine months with all containment measures to be observed. The dusk to dawn curfew is to continue until 12 March 2021. Conditions governing religious gatherings remain unchanged and in accordance with the guidelines issued by the Inter Faith Council and with all other applicable Ministry of Health guidelines and protocols remaining in force. Restrictions on public gatherings and events remain, with the exception of burials and weddings, which are to be conducted with prior approval and with the number of persons being capped at a maximum of 150 and only if the particular venue can accommodate that number of persons while adhering to all applicable guidelines and protocols. Persons over 58 years or those with pre-existing conditions are encouraged to deliver their professional duties remotely. Public transport vehicles must not exceed 60% of their carrying capacity. By the start of 2021, Kenya had 96,802 cases confirmed with 1,685 deaths reported.

Cape Town (South Africa)

Warren Smit

COVID-19 has affected South Africa profoundly. As of 3 January 2021, about 1.1 million cases of COVID-19 and about 30,000 COVID-related deaths had been recorded (Department of Health, Republic of South Africa 2021). COVID-19 initially peaked in South Africa in winter (July 2020), and a 'second wave' of COVID-19 began in early December 2020. Cape Town, the second largest city in South Africa, with a population of over 4 million, was the first city in Africa to be badly affected by COVID-19 and has had about 138,000 cases of COVID and more than 4,000 COVID-related deaths so far (Western Cape Government 2021).

In South Africa, the national government responded very quickly, introducing a national state of emergency and introducing a strict lockdown on 26 March 2020. People were not allowed to leave their homes except for essential work, to purchase essential supplies or seek health care. From 1 July 2020 the lockdown was relaxed, and the economy slowly began opening up. The first phase of South Africa's lockdown included a ban on the sale of alcohol and tobacco, with very strict policing of regulations; as of 22 May 2020, 230,000 people had been arrested for contravening lockdown regulations (*Eyewitness News* 2020).

Economic impact

The lockdown has had an enormous economic impact. The National Income Dynamics Coronavirus Rapid Mobile Survey, a representative survey of 7,000 South Africans, estimates that approximately three million people lost their jobs over the lockdown period from March to June 2020, representing a decline in employment from 17 million people in February 2020 to 14 million in June 2020 (Spaull 2020). Of these 3 million job losses, about 2 million were women.

About 47% of respondents reported that their household ran out of money to buy food in April 2020, up from 21% in the equivalent period in 2019; by June 2020, the number of households reporting insufficient money to buy food had decreased slightly to 37% but was still significantly higher than pre-lockdown levels (Spaull 2020).

The main state response thus far, led by the National Coronavirus Command Council, has focused on health care and on implementing a lockdown to reduce risk of infection. The promulgation and enforcement of the regulations are largely national government issues, since policing is mainly a national government function. In terms of the health response, health is mainly a provincial government function, which in the case of Cape Town is the responsibility of the Western Cape Provincial Government.

Impact on residents of informal settlements

One of the biggest challenges of COVID-19 has been its impact on informal settlement residents. In Cape Town, the highest incidence of COVID-19 during the first wave was in Klipfontein and Khayelitsha, the two health subdistricts with the highest concentrations of informal housing—55% of the population of Khayelitsha and 24% of the population of Klipfontein live in informal housing (City of Cape Town 2021). Klipfontein subdistrict consists of older townships on the Cape Flats (such as Gugulethu, Manenberg and Hanover Park) developed in the 1950s and 1960s, and a large concentration of informal settlements (e.g. along the N2 freeway). Khayelitsha was developed in the 1980s on the south-eastern periphery of Cape Town and has a large number of informal settlements on vacant land in and around the formal areas. Both areas consist of a mix of formal housing (with informal backyard shacks) and informal settlements, and have high levels of poverty, with unemployment rates of more than 30% (City of Cape Town 2021). As of 6 July 2020, after the first peak in Cape Town, the Klipfontein and Khayelitsha subdistricts both had incidence rates of more than 1,600 cases per 100,000 people, compared to an average of 1,174 for Cape Town as a whole (based on Western Cape Government 2018, 2021).

The first wave of COVID particularly affected areas with concentrations of informal housing as it is difficult to practise social distancing in overcrowded conditions and the lack of adequate water supply and sanitation means that practising good hygiene is extremely difficult (for example, see De Groot and Lemanski 2020). The second wave, driven by a new South African variant of the virus, spread in all parts of the city, particularly amongst younger people, largely driven by super-spreader events. As of 3 January 2021, the incidence rate for Cape Town is 3,343 cases per 100,000 people (based on Western Cape Government 2018, 2021).

In April 2020, the National Minister of Human Settlements, Water and Sanitation announced plans to fast track the provision of temporary water and sanitation services in informal settlements, and also indicated an intention to 'de-densify' informal settlements. A number of informal settlements, including Dunoon in Cape Town, were subsequently announced as being due for de-densification. Plans are currently under way for the relocation of 1,500 informal settlement households from Dunoon to temporary accommodation in 2021 (Luhanga 2020). In some cases, relocations to nearby sites may be necessary

to reduce overcrowding, but it would usually be more appropriate to upgrade informal settlements so as to reduce the risk of infectious disease in these high-risk areas (Smit 2020). It is important to reduce overcrowding through these upgrading processes, but if this could be done through the provision of multi-storey housing, large-scale relocations of residents are not necessarily needed, especially given the associated social dislocation.

The COVID-19 pandemic has greatly impacted on the livelihood strategies of homeless people in Cape Town, as they were not able to move around the city during the strictest parts of the lockdown. The COVID-19 pandemic has resulted in increased focus on the provision of food, shelter and healthcare to homeless people, but there have been cases where homeless people were moved to inappropriately located shelters with poor living conditions, for example, the City of Cape Town relocated 1,600 homeless people to an emergency shelter in Strandfontein (this was subsequently closed down and many of the homeless people who were staying there returned to the streets) (*Argus* 2020a, 2020b; *City Press* 2020; *Mail and Guardian* 2020).

Impact on the SDG agenda

In South Africa, COVID-19 has highlighted the importance of the SDGs and has sparked many initiatives that will potentially contribute to meeting targets and indicators of the SDGs, such as the increased roll-out of water and sanitation, and social safety net initiatives (such as food voucher schemes). There have also been many innovative community initiatives to help mitigate the crisis, for example, with regards to social safety nets and bottom-up data collection (for example, see Mejía-Dugand, Croese, and Reddy 2020) (Figure 5). However, as in the rest of Africa, COVID-19 has significantly set back achievement of the SDGs (Hamann et al. 2020). The huge economic impact of the lockdown, the resulting loss of revenue from decreased economic activity (resulting in less municipal revenue from service charges and in lower national government grant and subsidy allocations), and the reallocation of budgets for the healthcare response will all make achieving the SDGs even more challenging. The initial response in South Africa was top-down, largely driven by science experts, and correctly so, but in the long-term in order to recover from the crisis effectively and get back on track in terms of meeting the SDGs there is a need to shift towards a more participatory and nuanced bottom-up approach to respond to local needs in specific places.

Shimla (India)

Tarun Sharma and Yutika Vora

The COVID-19 pandemic in India has emerged primarily as an urban crisis, bringing the sharp inequities and vulnerabilities in its cities to the surface. Many of the larger cities including Delhi, Mumbai and Pune, became COVID-19 hotspots and hence were placed under strict lockdowns that impacted the livelihoods of millions of workers. Many of these workers were migrant informal labourers (Bhalotia, Dhingra, and Kondirolli 2020). Reports have suggested that the three Indian states (Maharashtra, Tamil Nadu and Delhi) that

Figure 5: Face masks on sticks for sale by the side of the road in Masiphumelele informal settlement, Cape Town. Wearing face masks in public is compulsory in South Africa; failure to do so can be punishable by imprisonment of up to six months. Image credit: Samantha Reinders.

saw the highest number of infections also have high urbanisation levels. Even in states with lower urbanisation levels, the spread was restricted to their major cities. Some estimates even suggested that 70% of all cases were recorded in just thirteen Indian cities (Kurian 2020). The recent insights from the fields of consumer-centric research also highlights the fact that rural India is likely to recover faster from the pandemic than the urban areas (*Financial Express* 2020).

Unequal intra-urban impacts

Ongoing research also suggests a correlation between densities and the infection rates (Bhadra, Mukherjee, and Sarkar 2020; Kaicker, Imai, and Gaiha 2020). Research in cities of developing countries suggests that neighbourhoods with slums[5] are likely to have higher densities of cases and that slums may be high-risk locations from the perspective of COVID-19 (Sahasranaman and Jensen 2020). This study of neighbourhoods across major cities of developing countries, which included Mumbai in India, concluded that a significant percentage of COVID-19 cases were concentrated in high density neighbourhoods, many of which contain the largest slums of those cities (Sahasranaman and Jensen 2020). An antibody prevalence study in Delhi in January 2021 suggested that over half the megacity's population of some 20 million had previously had COVID-19, compared with just over a quarter in October 2020 (*New York Times* 2021b). This would represent one of the highest prevalence levels globally and it also implies a very rapid rate of new infections in such a densely inhabited megacity with high levels of poverty. By early February, new infections appeared to be falling markedly countrywide.

Studies at local district levels have also suggested that—as discussed by David Simon in the main text—density seems to be one of the factors impacting the infection rates but other factors might also be at play. A study of COVID-19 infections across the municipal wards in Kolkata found that the highest risk areas in the city overlapped with wards containing a larger share of population living below the poverty line and living in slums. It also concluded, however, that the increase in the number of containment zones (areas with strict lockdowns) may not be attributed to a single demographic factor but a mix of factors such as density, access to sanitation, clean water among others (Nath et al. 2020).

The pandemic has catalysed the role of various actors as key to dealing with the pandemic. Though initially the responses to the Covid-19 pandemic in India were largely led by national and state level initiatives, over time, the city and district administrations became central to the implementation of efforts to counter the threat of the pandemic.

Municipal and state-level responses

City governments such as that of Mumbai sealed buildings of suspected and confirmed coronavirus-positive persons and also mobilised their health workers to survey the residents for symptoms. Shimla Municipal Corporation in Himachal Pradesh state set up a separate team to collect waste from the houses of quarantined persons in special bags which were sanitised before being sent to the disposal plant. Some other cities organised skill-building workshops for migrant workers and homeless persons, while a few also leveraged women's self-help groups under them to manufacture masks, thereby providing livelihoods to the women and also ensuring an adequate supply of masks (Nagrika 2020a).

The national and state governments employed various strategies including lockdowns, quarantine and containment zones, increased testing and public awareness campaigns (on social distancing and using masks), where city governments played a critical role in ensuring compliance. Mumbai city government earned close to $60,000 in fines imposed on offenders who were not wearing masks (*Indian Express* 2020). Another key aspect where city governments played the anchor role was that of maintaining cleanliness and sanitation within the city limits. As per the constitutional delegation of powers, solid waste management and sanitation is a function devolved to city governments. They undertook innovative strategies to perform this role in light of COVID-19. Most cities were ensuring daily spraying of disinfectants in containment zones and periodic spraying in other city regions. Some of the cities also deployed innovative technologies like drones to sanitise the cities. The waste management function also evolved to manage the increasing bio-medical waste due to COVID-19 (*Times of India* 2020) (Figure 6).

Impact on other priorities and the SDG agenda

While local actions became more evident and more relevant, the capacity to address critical challenges at the level of city governments still remains limited as they lack access to decision making powers and resources. Although a constitutionally delegated function of local governments, in practice, public health still remains outside the jurisdiction of most cities. Only a handful of cities have hospitals under their jurisdiction.

Figure 6: A poster in Dehradun explaining health precautions against COVID-19 in Hindi, expressed as dos and don'ts. Image credit: Tarun Sharma.

The pandemic caused a significant impact on the people living in slums and informal housing due to the high densities and inadequate access to basic services especially in larger cities. For example, in Mumbai, most infection hotspots were found either in or close to informal settlements (World Economic Forum 2021). Many of the homeless or people living in informal settlements were part of the informal labour who lost jobs due to the lockdown and had to travel back to their hometowns. The informality also created further difficulties as many of these households/individuals were not covered under social safety nets (UN Special Rapporteur 2020).

Provision of housing has also been a policy instrument under the control of national and state governments, with city governments' role restricted to providing building approvals (Nagrika 2020b). Access to quality housing in clean surroundings will be a priority for households in the post-COVID-19 world and hence it is imperative that city governments play an active role in managing the supply and demand for housing.

Another element needing attention going forward is evolving and 'normalising' citizen participation mechanisms that get integrated with the efforts of local governments especially at the time of such emergencies. The participation of citizens in the governance procedures of their cities is already limited in India as compared to their rural counterparts. Urban local governments' capacity to engage with citizens as well as the various mechanisms which can ensure the participation, such as constitution of ward committees, has been very limited (Tripathi 2018).

Given the urban nature of COVID-19, it has set back progress on many of the envisaged targets of SDG 11 and NUA envisaged for Indian cities (Revi 2020). Though most Indian cities still are to formally take up assessments of their capacities to meet these targets, the inequities in urban areas have magnified as a result of the pandemic, impacting incomes, livelihoods, access to food, education infrastructure among others. However, at the same time, it has provided a window of opportunity to empower city governments to take on challenges such as COVID-19, which can be dealt with most efficiently at the local level. This window can also be seen as an opportunity for cities to become the leading actors in meeting the SDG targets. It is necessary for city governments to be enabled to take on more and ensure the health of their residents by building on their competitive advantage of being the closest to citizens.

Buenos Aires (Argentina)

Great Buenos Aires comprises 24 metropolitan municipalities and the Autonomous City of Buenos Aires (CABA), with a combined built-up area of about 2700 km² and a population of almost 13 million in 2010. Of this, the CABA's population was about 2.9 million in 2010, rising to a little over 3 million in 2016 (Mistra Urban Futures 2018). About 40% of the population in Buenos Aires metropolitan area lived in poverty at the end of 2019, just before the onset of the pandemic, according to an estimate by the National Institute of Statistics and Censuses (INDEC) (*Buenos Aires Times* 2020). Most of them live in the many informal settlements. Community dynamics and the associated politics are often

complex, complicating emergency interventions in the face of disasters or, in this case, the pandemic. A recent study, the results of which are to be published soon, has shown that in settlements where there is strong social capital among residents and relationships between grassroots organisations and the City have been collaborative, the incidence of COVID-19 has been significantly lower than in other informal settlements (WHO 2020). The following text provides an overview of the responses of the City Government to the pandemic, written by two SDG officials in the City.

* * *

Angeles Arano and Mariana Cammisa

Cities and metropolises are key actors in the Sustainable Development Agenda and have been leading it for years, mainly, because the construction of a sustainable future depends largely on the actions taken at the local level. Moreover, with 90% of coronavirus cases occurring in urban centres, cities are leading the responses to the health, economic, and social crisis caused by COVID-19.

Differential urban impacts and the SDG agenda

The pandemic exposed the vulnerabilities of urban areas and triggered the debate about their future. The new normal is changing urban life. How to adapt and be more flexible, resilient, sustainable, productive, and inclusive are some of the challenges that cities have faced for years but today, while building back better, is more relevant than ever. The City Government of Buenos Aires has invested in sustainable development for over a decade, allowing a rapid response to the challenges caused by the COVID-19 outbreak and forging a solid foundation for our recovery. Some initiatives, adopted specifically in the context of the pandemic, are highlighted, which account for adaptations to the 2030 Agenda in relation to six SDGs: 3, 4, 5, 11, 13 and 16 (see Figure 1).

Buenos Aires was transformed with the objective of becoming a 'city on a human scale', a model that places people's quality of life at the centre of government policy and that continuously seeks to improve it, respecting the identity, characteristics and particular dynamics of each of its neighbourhoods. Buenos Aires has been working to make a more inclusive, safe, resilient, and sustainable city through social and urban integration, the promotion of sustainable mobility, and the accessibility to quality public and green spaces (*Buenos Aires* 2018).

In response to the pandemic, the City quickly adapted its urban design to encourage neighbourhood businesses, eliminating non-essential use of public transport and vehicles, favouring social distancing and avoiding crowding in public spaces by promoting pedestrian and bicycle mobility. Interventions to widen sidewalks in high transit areas and to close streets for the use of local neighbourhood fairs and stands, bars, and restaurants affected over 100,000 square metres and were distributed across the city (Figure 7). These included 15 new transitory pedestrian areas (one for each city commune); 27 fairs that returned to work distributed in 127 locations across the city, closing the streets bordering the shopping centres in 7 neighbourhoods, alleviating conditions for some 760,000 residents and 1,700 commercial premises.

Figure 7: Social distancing instructions on roadway, Buenos Aires. Photo: Angeles Arano.

Crisis response in vulnerable neighbourhoods and individuals and families at social risk

In order to contain and mitigate the impact of the COVID-19 pandemic on vulnerable populations, the Buenos Aires City Government articulated a particular strategy for the 38 vulnerable neighbourhoods—which have a population of 240,000 people—focused on four pillars. First, health care by promoting preventative measures with a combination of testing, tracking and isolating positive cases (DetectAR). Second, attending older adults who could not maintain social distance in their homes due to housing conditions. Third, maintaining urban hygiene through hydro-cleaning operations, fumigation operations against dengue, and reinforcing waste management. Last, to ensure food security, provision through community kitchens was increased by 30%, a weekly delivery of food bags was implemented for children that attended to Early Childhood Centres and for adult caregivers, and dry food was delivered in different parts of the city, reaching over 350,000 people altogether.

Likewise, during the emergency and confinement period, *Buenos Aires Presente* – a programme dedicated to assisting individuals and families at social risk, and the homeless population – was strengthened by opening eight new shelters and two new centres exclusively for older adults, ensuring the maintenance of social distancing and health protocols.

Public health

Urban hygiene was reinforced using sodium hypochlorite for the first time as a disinfectant for cleaning streets, sidewalks, containers, parks, squares and urban furniture in the 12,000 street blocks comprising the City of Buenos Aires.

The City has a free, high-quality public health system that is offered to all citizens who live and transit it. When the dramatic situation caused by the pandemic in the health systems of other cities in the world became known, the City's health care system was restructured to increasing the installed capacity and diversify emergency care channels: adding more beds in intensive care units and general hospital beds, building 20 Febrile Emergency Units outside public hospitals to screen patients with symptoms and hiring more than 2,500 health professionals.

One of the pillars of the strategy adopted by the City was early detection to identify cases of Coronavirus as quickly as possible and thus cut the chain of contagion and prevent the spread of the disease by isolating close contacts of positive cases.

In addition, a set of initiatives focused on strengthening the care of the most vulnerable population: a volunteer programme to assist older adults at the beginning of the confinement period, a 'flu vaccination campaign for people over 65, and the provision of online cultural and home entertainment content for all citizens.

Education

Regarding education, with the schools closed for over 8 months, 90% of the students were able to continue with online education thanks to the educational transformation that has been taking place in the last decade: 100% of the classrooms are connected and digital education is offered since kindergarten to prepare children for the use of new technologies and the jobs of the future. By late 2020, children were progressively returning to schools with the main purpose of reconnecting with teachers and classmates and promoting their overall well-being.

Impact on gender equity

In terms of gender equity, the City has been implementing a Comprehensive Strategy for Gender Equality that aspires to an egalitarian city in which all women transit and enjoy public spaces without violence, where they are strategic actors of economic development and have a voice in decision-making positions in the public and private sectors.

Since the beginning of the pandemic, the City has taken several actions to guarantee the gender perspective in the crisis response, with a special focus on intensifying assistance and support for victims of gender-based violence. This perspective is extended to the post-pandemic recovery, in which we are already working, but also to all the areas and programmes that we conduct. Furthermore, the reopening protocols of every activity include the gender approach to promote parenting co-responsibility and women's economic autonomy.

Finally, the City has been working to have quality institutions and an open, innovative and accountable government that is committed to active transparency and public access to information. These pillars were fundamental to adapt in a fast, efficient and coordinated way when facing the emergency and to set new government standards for the reactivation phase.

The pandemic provided the opportunity to further push and consolidate the transformations that will accelerate the path to sustainable development

and work towards a cleaner, greener and more sustainable future. Cities must remain at the centre of the development agenda, by building urban areas on a human scale that are more integrated, sustainable and resilient, that guarantee equal rights and opportunities, and that bet on talent and innovation as the engine of development.

Analysis

David Simon

While proposing any solution to this overarching provocation about urban land and housing markets and allocation systems (re-)producing inequality would go substantially beyond the scope of this symposium and require additional expertise, the contributions highlight different dimensions of diverse cities striving to understand and cope with the coronavirus pandemic. There can be no doubt that the complex human, social and economic costs—including the diversion of budgets from planned development, capital and service upgrade programmes to crisis management—have set back sustainability trajectories and the prospects for meeting many targets and indicators in SDG 11 and urban components of other goals on poverty and hunger elimination (SDGs 1 and 2), health and wellbeing (SDG 3), decent work and economic growth (SDG 8), reduced inequalities (SDG 10), responsible consumption and production (SDG 12) and perhaps life below water (SDG 14)—see Figure 1 and also below—and some others almost everywhere.

More substantively, as reflected in the diverse cities included in this symposium and in the broader literature and commentaries cited above, this means that the pandemic rapidly stalled and even reversed progress on poverty and inequality reduction almost everywhere—both overall and in many individual dimensions.

In relation to environmental dimensions, however, the impact of COVID-19 is more mixed. On the one hand, the trend away from single-use plastics in high-income cities has been reversed, at least temporarily, as a result of the vast increase in use of PPE in the health care sector and disposable masks and gloves by the general public. Single-use coffee and tea cups are also proliferating again as shops are refusing to fill people's reusable cups and flasks on health grounds, while take-away food sales have increased during lockdowns or periods of lesser restrictions that preclude table service in restaurants. Evidence quickly emerged of increased plastic littering, inappropriate disposal and pollution of riverbanks and coastlines with this waste as a result of storm flushing or illegal dumping.

On the other hand, tough lockdowns in cities worldwide substantially reduced traffic congestion and the associated vehicle emissions and noise pollution. CO_2 levels fell by around 17% on average, and in some countries by 26%, by early April 2020 compared to the equivalent period in 2019 (Le Quéré et al. 2020; *Guardian* 2020h), many local authorities increased road space for pedestrians and cyclists (*Guardian* 2020i). In many cases, people were able to reclaim the streets and appreciate the leisure and psychological benefits of

green and blue infrastructure and urban biodiversity, since NO_2 and airborne particulate matter (PM10 and especially PM2.5) also fell substantially. The dramatic decline in air travel also reduced damage to the ozone layer and air pollution around airports.

While many of these benefits were probably only temporary and will not in themselves reduce the rate of climate change, there is evidence of longer-lasting effects in relation to demands for permanent road closures and pedestrianisation, enhanced cycle lanes and other provision in dense and relatively compact areas. All of these are accelerating municipal action in cities worldwide towards more fundamental rethinks and commitments to what is now commonly being referred to as the 20- or 15-minute city (C40 2020a, 2020b; Chicago Council on Global Affairs 2020; Sisson 2020). If carried through into widespread implementation, this will address a fundamental element of urban transformation required for sustainability. This will occur by reversing the longstanding modernist planning and zoning commitments to more or less monofunctional land use in favour of multifunctional land uses (Simon 1999, 2001) and redesigning neighbourhoods and local areas so that most of what people require is accessible within a radius of around 2 km from their homes (Basu 2020; Gupte and Kumar 2020; Simon 2020; UN-Habitat 2020a). Depending on how far this leads to meaningful change in urban land market operation and its effect on access to housing by different classes and segments of urban dwellers, this could provide a firm basis for reducing intra-urban inequality and hence substantive transformation, or actually reinforce spatially entrenched inequality and segregation.

The widespread trend towards homeworking by previously office-based professional staff, enabled by rapid enhancements in IT and videoconferencing software, and greatly accelerated by COVID-19 lockdowns or other restrictions, is likely to be only partially reversed in future. Hence the working week would be split between home and office. Reduced aggregate demand for city centre office space is thus likely to increase conversion of such buildings to residential use. On the evidence of almost all inner city and water/harbourfront redevelopments to date, it is likely that most such conversions will be targeted at middle income earners. However, making the 15–20-minute city concept meaningful and reducing socio-spatial inequality requires that manual/semi-skilled workers in central business districts and the like should also be able to live close to their workplaces. This implies the need for mixed housing, which may be less attractive to capitalist property developers and will probably generate some political opposition.

All of these changes will also substantially reduce the need for private motor vehicles and hence the roughly 25% of urban space on average devoted to roads and parking, in favour of walking and cycling as well as local minibus and paratransit services, linking to integrated public transport interchanges. Public open space—and other blue and green infrastructure—can then also be increased locally, along with urban biodiversity, in turn helping to promote nature-based solutions to sustainability through the provision of ecosystem services. Examples range from urban watercourse and wetland restoration to ameliorate flooding to planting of trees and green roofs and walls to tackle the urban heat island effect; grey and rainwater capture to water gardens or cultivation plots and reduce runoff; and selective promotion of urban and peri-urban agriculture

to stabilise soil, increase groundcover, generate livelihoods and increase local food supply.

Many municipalities are already committed to some kind of urban greening programmes but the pandemic could provide the stimulus and political and public support to step these up into these more profound neighbourhood transformations, justified in part by the major public health and wellbeing benefits. In Cape Town, for instance, there has been a definite increase in food gardens, and the City has launched a new programme to foster this.[6] As with the accelerating shift of energy systems towards renewables, driven by the dramatic falls in installed cost per kWh of solar and wind generation relative to the cost of energy derived from fossil fuels, and progress towards low-carbon and carbon neutral buildings, such programmes will generate considerable economic benefits.

Concluding reflections

David Simon

The global reach and severity of the pandemic have also served to bring cities and city leaderships together through municipal membership and networking organisations with an unprecedented commonality of purpose that also serves to overcome traditional geopolitical and historical divisions like global North and South. Such progress also underlines the irony of the misnomer coined early on in the pandemic that 'social distancing' is required to reduce the risk of spread. Actually, physical distancing is required, while videoconferencing softwares and social media are being widely utilised in efforts to maintain social cohesion and capital as far as possible by bringing physically distanced people unable to travel to meet together virtually. That said, there are limitations imposed by socially and spatially uneven access to stable electricity, wifi and reliable computer hardware and software—a classic digital divide challenge being faced by schools and universities everywhere during lockdowns, but which are even more pronounced in cities of the South.

From this perspective, and especially if the new Biden administration in the USA heralds the anticipated shift in attitudes within that country and beyond towards concerted action on climate change, it is possible that the massive short-term global disaster of COVID-19 will ultimately serve to stimulate more ambitious and rapid sustainability transformations within our towns and cities. As the recent authoritative *Lancet* Countdown on health and climate change report concluded,

> The public health and financial effects of COVID-19 will be felt for years to come, and efforts to protect and rebuild local communities and national economies will need to be robust and sustained. Despite concerning indicators across each section of this report, the 2021 UN Climate Change Conference presents an opportunity for course correction and revitalised NDCs [Nationally Determined Contributions]. The window of opportunity is narrow, and, if the response to COVID-19 is not fully and directly aligned with national climate change strategies, the world will be unable to meet its commitments under the Paris Agreement, damaging health and health systems today, and in the future. (Watts et al. 2021, 36).

While COVID-19 itself may not have been predictable, other epidemics and pandemics have been occurring with increasing frequency and arguably also severity in recent decades. The cities in east Asia that responded fast and effectively to the arrival of COVID-19 were in countries badly affected by one or more of the recent avian or zoonotic epidemics and which had learned from those experiences, building comprehensive rapid quarantine and track-and-trace strategies. None of the cities in this study fall into that category. Unsurprisingly, perhaps, their reactions and responses varied greatly, both where the local authorities have independent powers and resources to act and where national governments were required to take the lead.

From a structural perspective, it is important to highlight that COVID-19 has been merely the trigger rather than the underlying cause of the disaster. Where early warning and rapid response capacities were inadequate, the spatially highly differentiated experiences of the pandemic have exposed and indeed, often deepened, sharp cleavages and structural fault lines of inequality and poverty through the urban landscapes of inequality. In that respect, by analogy with the disaster risk reduction and climate change literatures, COVID-19 constitutes an extreme event. While in time a city should recover from a single such exposure, although leaving the most marginalised and poorest worse off, the increasing frequency and now also severity of extreme events of various kinds (public health, environmental and economic) are reducing the intervening recovery time and overall systemic resilience, while widening inequalities and increasing pauperisation and in some cases destitution. Failure to heed the warnings and to build effective early warning and response strategic capacity could trigger systemic urban political and sustainability crises.

All of this underlines the importance of seizing this disastrous pandemic as a belated opportunity to 'bounce' or 'build back better' (in the language of resilience discourse) if urban areas everywhere are actually to stand a chance of becoming more equitable, sustainable and resilient (Gupte 2020; Simon 2020; World Economic Forum 2021).[7] Even if such political will exists and the urgency is realised, this will be a formidable challenge because it will entail tackling the underlying sources of structural inequality, unsustainability and dis-ease (hyphen intentional)—which, as the six city case studies and evidence presented above from around the world have demonstrated clearly—are determining the socially and spatially unequal and regressive urban impacts of COVID-19. These are precisely the challenges that politicians, policymakers and publics everywhere have hitherto almost invariably been loathe or unable to address. The entrenched power of vested interests and bureaucratic inertia will therefore be very hard to overcome. As the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC AR6) to be published later this year will demonstrate with even greater certainty than its predecessor in 2014, urban areas are central to current profiles of greenhouse gas emission and need to be leading actors in global efforts to meet the 1.5°C or even 2°C warming target to avoid catastrophic climate/environmental change. The available time to achieve this is shrinking and, although some municipalities are already proactive, current efforts are inadequate. It is therefore essential that the immediacy of the pain and suffering caused—principally in urban areas—by COVID-19 is harnessed as a catalyst to the required action, rather

than the pandemic remaining, as now, another source of increased urban inequality and unsustainability.[8]

Disclosure statement

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

Notes

1 Such areas are officially labelled 'slums' in India and the term is still used by the UnIted Nations Human Settlements Programme (UN-Habitat), although 'slum' is widely regarded as pejorative today – see the detailed analysis in CITY 15(6), 2011 – special section on 'Beyond the return of the slum'.

2 For instance, research by Warren Smit and colleagues in Khayelitsha, the largest low-income and high-density area in metropolitan Cape Town, concluded that '[t]he example of Khayelitsha demonstrates how economic, social and political forces can result in the establishment of an isolated and segregated residential area of largely poor households with limited access to economic opportunities, limited opportunities for safe physical activity and healthy food options, and high levels of depression and stress. The net result is that the environment of Khayelitsha is not conducive to good health or healthy lifestyles, and the area has the worst health conditions (including NCDs) in Cape Town'(Smit et al. 2016, 201).

3 For a description and definition of the foundational economy, see 'What is the foundational economy? – The Foundational Economy' (https://foundationaleconomy.com/introduction/).

4 This is the notion that COVID-19 is unprecedented and therefore unlike any previous pandemic.

5 This is an officially defined term in India - see footnote 1.

6 https://www.goodthingsguy.com/environment/city-of-cape-town-launch-urban-food-garden-program-to-help-feed-sa/.

7 As pointed out with respect to the 2030 Agenda and SDGs in the Introduction, adoption of such key global policy discourses as slogans and many efforts at implementation of the associated agendas are inadequate and can have diverse motives. These include instrumental and highly selective or superficial efforts for reasons of political convenience, or deliberate reformist amelioration of conditions under existing parameters so as to preserve the status quo and avoid addressing the underlying capitalist or other relations and structures that produce and sustain poverty and inequality in the first place. Issues around such global agendas have also been addressed by previous contributors to this journal in various contexts, including most recently the potential for global control (Schindler and Marvin 2018); struggles in and over the city and glocalisation as room for manoeuvre between global discourse and local compliance or deviance (Burgos-Vigna 2017; M-Keivani, Omena de Melo, and Brownill 2020; Sihlongonyane 2020).

8 The vaccination issue is complex and only just unfolding. Many of the relevant policies are being taken at national rather than local level.

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