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Viewpoint

Shrinking homes, COVID-19 and the challenge of homeworking

COVID-19 remains a poorly understood disease, with its aetiology the object of considerable debate. But what is clear is that the impacts of COVID-19 are most pronounced in urban areas. In Britain, for example, London, Birmingham and Manchester all have rates of COVID-19 infection of more than 30 people in every thousand, whereas in the more rural areas of the South West, the rate is a third of this or less (Department of Health figures, 27 April 2020). Even allowing for underreporting and less testing in rural areas, there is a clear basis for asserting that COVID-19 is more widespread in cities, and that the larger the city, the more virulent the spread of the disease through the population: in this respect, the evidence from Britain mirrors the experience noted elsewhere (Liu, 2020; Steir et al., 2020). Given that larger cities generally exhibit poorer health – related to questions of diet, pollution, education, poverty and overstretched medical services – the fact that COVID-19 has been the cause of relatively more deaths per infection in Britain's largest cities can be no surprise.

A number of factors have been postulated as underpinning the prevalence of COVID-19 in larger urban areas. One explanation is that the virus tends to touch down in those global cities which are best connected to cities elsewhere, with airports being perhaps most important nodes of virus transmission in any global pandemic. Yet the faster and more widespread diffusion through cities also appears to be related to population density, with the virus more likely to transmit to more people in contexts where proximity to others is part and parcel of daily life. Recognising that the key to lowering the virus's 'reproductive number' (R) is maintaining 'social distance', governments around the world have introduced measures which seek to invert urban norms: all the places usually busy with commuters and consumers have been hollowed out and normal business has effectively been suspended. Transport hubs stand empty, shops closed and sporting and conference venues unused – except as field hospitals and morgues.

There are, then, multiple challenges in fighting a global pandemic in cities where disease can spread through crowded transit systems, shopping centres and workplaces, but it seems self-evident that encouraging people to work at home, if possible, is the

most obvious measure that can reduce the transmission of COVID-19. Homeworking has quickly become the ‘new normal’ for those able to work remotely, with only ‘front-line’ workers encouraged to travel to work. An April 2020 YouGov poll revealed that 52 per cent of working-age adults in Britain – over 15 million people – were trying to work at home during the COVID lockdown, nearly *nine times* the 1.7 million who routinely worked from home under normal pre-COVID conditions (Labour Force Survey, 2019). While many of these people were no doubt better prepared than they might have been a decade or more ago – when the numbers working at home were about half the pre-pandemic level and real-time video calling was far less developed – anecdotal evidence suggests many have been struggling to develop meaningful homeworking routines. Some lack the basic facilities required to work at home, and others have been juggling home *working* with the simultaneous home *schooling* of children.

Exploring how people are adapting to this ‘brave new world’, we commissioned a 1,000-household segment of YouGov’s biweekly London Omnibus survey (completed on Thursday 23 April 2020). Of the respondents, 501 (50 per cent) were adults of working age currently employed full- or part-time, and of these 9.4 per cent had often or always worked from home prior to the COVID-19 lockdown. In contrast, 349 (70 per cent) of the working-age sample were trying to work from home during COVID, a figure well in excess of the YouGov survey reported above; we can speculate, but are not in a position to confirm, that this is explained by the mix of jobs in London being more conducive to remote working and homeworking than those elsewhere in the country because of the concentration of computing, banking, scientific and administrative jobs in the capital.

Our survey focused on the degree to which the YouGov panel respondents were satisfied with homeworking, using a five-point scale (very satisfied, fairly satisfied, neutral, fairly unsatisfied or very unsatisfied) and then asking them to list what they saw as its main advantages and disadvantages. We coded their answers into positive themes (related to greater freedom over working routines, the ability to see more of one’s family, fewer distractions at work and reduced commuting costs) and negative (lack of human contact, possession of an inadequate workstation and IT resources, noise and interruption at home and the more thorny issue of how to draw boundaries between home and working life).

Perhaps unsurprisingly, those who had experience of working at home previously were least likely to list negative impacts of homeworking, and were significantly more likely than those who had *not* homeworked before to report overall satisfaction with homeworking (chi square, 60.87, $df = 9$, $p = 0.00$). Predictors of dissatisfaction with homeworking included whether the individual trying to work at home was also caring for a responsible adult (chi square 7.837, $df = 3$, $p = 0.049$). Women reported less satisfaction than men (chi square 7.011, $df = 3$, $p = 0.072$), as did people with children (chi

square 7.299, $df = 3$, $p = 0.063$) – especially young children aged up to four (chi square 8.01, $df = 3$, $p = 0.046$) – suggesting the continuing existence of a gendered division of domestic labour at a household scale.

But from an urban-planning perspective, one of the more interesting findings was that those living in detached homes in London were four times more likely to report being very satisfied with homeworking than those living in flats or apartments in purpose-built blocks (chi square = 23.744, $df = 17$, $p = 0.070$). Of those living in properties with four rooms or fewer, 64 per cent reported being very dissatisfied with working at home, as opposed to 35 per cent of those living in properties with five or more rooms. Of those in smaller properties, 70 per cent reported difficulties in drawing boundaries between home and working life, as opposed to 30 per cent in larger ones (chi square = 4.994, $df = 1$, $p = 0.025$). All of this implies that those living in smaller properties, especially flats, are less happy to be homeworking than those living in larger homes, even when allowing for other factors such as social class, gender, age or the presence of children.

In many ways these results are not unexpected, particularly in situations where multiple people are working from home in a small property. As one respondent recounted,

We are both trying to work from home in a one-bed flat with no garden. There's only one table and we both make calls during the day and so one of us works in the kitchen/living room area and the other in the bedroom. Neither of us are comfortable and working sat on a bed is not ideal for multiple reasons. We are both still very busy at work and so there is no time to enjoy the day or get out for a walk until we have finished for the day. (Female, aged 25–34, ABC1 respondent)

Echoing this, many people living in smaller flats reported that they lacked a suitable workstation or desk space, and many resorted to working from a sofa or bed, experiencing back pain and general discomfort.

The fact that those working in smaller properties report dissatisfaction with homeworking could then be related to ergonomic issues of posture, thermal comfort, poor light and air circulation and ambient noise, but a large number of responses revealed more existential dilemmas of dividing work and home spaces. Most of the advice on effective homeworking suggests it is desirable to create an effective workspace separate from the home's social and living spaces: for many in smaller properties this is simply not possible. Unlike those living in detached or semi-detached homes, smaller properties tend to lack private gardens where relaxation can be had. In periods of lockdown, when homeworkers cannot even access public parks or local cafes, separating home and work life becomes impossible.

The implication here is obvious: if working at home is to be the 'new normal', especially for the 'creative class' who can most readily do so, then it seems prudent to

create homes where there is sufficient working and personal space. Likewise, it would seem sensible not to design flat and apartment blocks where lifts, stairwells and service areas are shared by large numbers of people and social distancing is difficult. But this is the *inverse* of what has actually happened: the last decade has witnessed a headlong rush to fill London – and our other core cities – with ‘micro-apartments’ aimed at millennials and students (Harris and Nowicki, 2020).

The average size of new-build flats and apartments is declining rapidly: nationally, the average had already fallen to just 65 square metres by 2014, prompting new space standards in 2015 stipulating that a one-bed, one-room flat must be a minimum of 37 square metres. Even so, one retrofitted scheme in an office block in Croydon has since made headlines for offering single studios of 13 square metres – the type of property where there’s not enough room to swing a small rat, let alone the proverbial cat. In addition to the changes to permitted development rights (PDR) allowing office buildings to be converted to housing (Clifford et al., 2019), former council estates across the capital are being renewed and redeveloped at higher densities, with the public housing of the 1960s and 1970s being replaced with new apartment blocks that offer residences often much smaller in size (Lees and Hubbard, 2020).

However, it is difficult to gauge the extent of this issue from media headlines about ‘shrinking homes’, and existing census sources give us little clue as to the geographies of smaller flats, so we adapted an approach used in Chi et al. (forthcoming) to examine energy performance certificates (EPCs) in order to determine the proportion of flats constructed since 2012 in London which are less than 37 square metres (Figure 1). Even allowing for assessor error – on average, property size is over- or underestimated by about eight per cent (Crawley et al., 2019) – a clear upward trend is evident, with a clear bias towards inner London, where land is at a premium and around one in ten new homes is below the minimum recommended size.

Figure 2 suggests another worrying trend: the median floor space of properties under 37 square metres seems to have declined to less than 30 square metres. Clearly, a compact living space of, say, 25 square metres barely functions as a living space, let alone one where home and work life can be effectively combined. Nonetheless, there are clear environmental drivers favouring the development of such properties, with dense, vertical cities deemed more walkable and energy-efficient. Globally, many urban governments are now exploring how taxation regimes and development constraints can discourage development at the suburban margin, simultaneously encouraging densification by up-zoning and relaxing height restrictions in the inner city (Gabbe, 2015).

The onset of COVID-19 is, then, an opportune moment to question both the assumptions underpinning this drive towards compact urban living and the means by which it has been delivered. Many commentators are now asserting that COVID-19 shows that the environmental advantages of densification can be outweighed by the

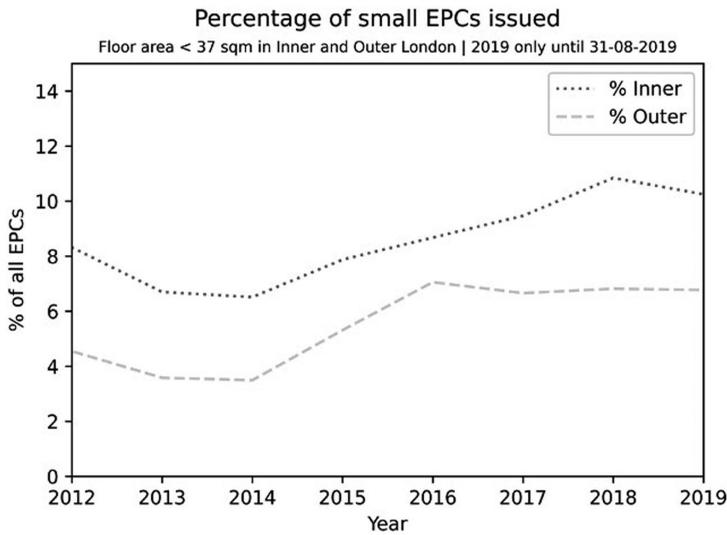


Figure 1 Percentage of energy performance certificates issued for homes of less than 37 square metres, 2012–2019

Source: Authors’ analysis

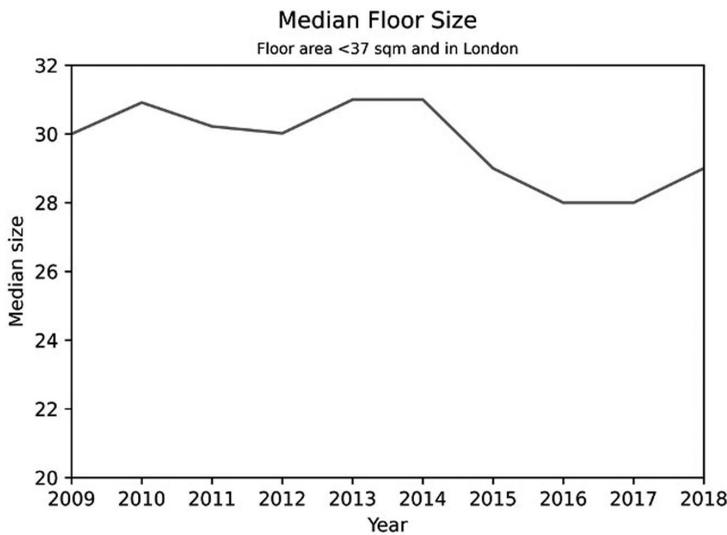
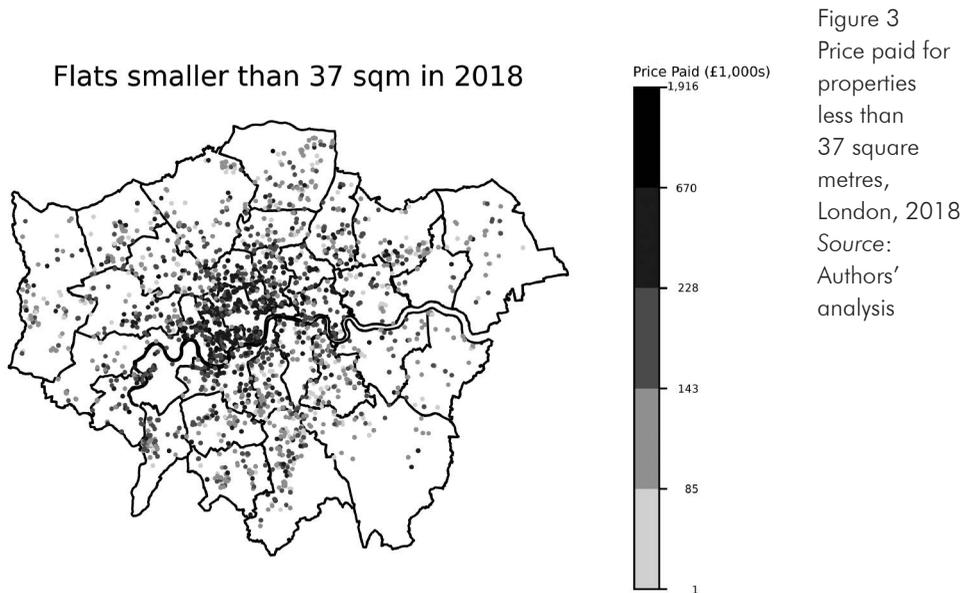


Figure 2 Median size of sub-37-square-metre properties

Source: Authors’ analysis



public-health disbenefits of packing people into tiny homes, compact neighbourhoods, and pop-up clubs and bars (Williams, 2020). Micro-apartments, like micro-pubs or small-footprint gyms, do not facilitate social distancing, nor do they facilitate the effective maintenance of the intimate space necessary to maintain personal dignity and well-being (Evans et al., 2003). Critical headlines have singled out young Londoners for ‘congregating’ in local parks as a potential vector of transmission; however, given that distancing is *already* impossible in high-rise buildings with tiny (if any) balconies, we may well need to rethink the kinds of provision that we require developers to make for relaxing *within* homes.

This issue intersects with another dynamic: micro-apartments are favoured by policy because they provide apparently affordable accommodation for the younger professionals, workers and students who are integral to ‘creative’ cities. There is, though, little evidence that this has achieved homes which are genuinely more affordable, and by linking EPC data to Land Registry price-paid data we can see just how few of these properties are affordable in any meaningful sense. Figure 3 shows the sale price of properties less than 37 square metres in five bandings: the lowest includes flats priced from an unlikely £10,000 to £85,000, but the upper quintile includes small flats priced from £670,000 to £1,916,000 (the most expensive in the data set). Not all of the most expensive flats are in ‘prime London’.

In many ways, the coronavirus pandemic might, then, represent a turning point in urban-planning orthodoxies. The fact that COVID-19 has spread so effectively

through densely populated urban centres, requiring lockdown and serious social distancing, suggests that, in the longer term, less dense living arrangements might be preferable. Rather than being located in London and other core cities, more and more of the city's workers might instead prefer to live in more distanced 'village' communities, telecommuting and routinely working at a distance whilst living in decent-sized homes which are surrounded by communal green spaces and parks. But this does not necessarily imply a regressive move from inner city, vertical living, back to the models of suburban sprawl that dominated much of the twentieth century. Perhaps, then, it is time to revisit the somewhat discredited notion of tele-cottaging, and to explore whether this offers a model for future living spaces that are energy-efficient and sustainable – as well as beneficial from a public-health perspective. Perhaps new, smaller communities might be constructed containing forms of cooperative housing boasting dedicated office spaces, roof gardens and communal spaces that allow for the development of a healthier working and living environment. Whatever the eventual form, the time is surely right for thinking again about how we can best provide the generous and healthy living and homeworking spaces required for life after COVID-19, turning our backs on the 'shoebox' homes that blight our cities.

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