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COVID and the home: the emergence of new urban home life practised under pandemic-imposed restrictions

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ABSTRACT

The recent pandemic-induced change has profoundly transformed our lifestyle and normal chores of everyday life. We discuss the dramatic changes in home-dwellers life during/after the COVID-19 outbreak in UK urban settlements and the implications for public health and urban planning practice. The discussions indicate the emergence and influence of new urban home life practiced during the restrictions. This fact requires the implementation of integrated planning and regeneration policies permitting housing (re)development that offer minimum spatial qualities and resilience for all home-life activities and residential communities. This should include fostering economic incentives for housing renewal providing direct access to open spaces.

Dramatic changes in home life

The COVID-19 pandemic has dramatically changed our lives. Under conditions of lockdowns and physical distancing, *home* has become a vital place for a variety of daily activities to avoid the transmission of the virus. Using the home as a workplace has quickly become a 'new norm' across the UK for those who can work remotely when they are encouraged to 'stay at home' and 'work from home if possible'. According to the Office for National Statistics, more than 46% of citizens did some work at home in April 2020, which 86% of them reported due to the pandemic situation, suggesting significant growth in working at home across the UK. Now more than ever, we are working, learning, shopping, and meeting others remotely and from home. Most educational institutions and programmes have transformed their services to online and/or blended learning systems. We commute less and socialise with family members and friends via digital monitors. The link between home and working environments in relation to public transport has become a societal challenge when more citizens are afraid of using public transportation due to the higher risk of spreading the virus. These are fundamental changes in home life and lifestyle that have become 'new norms' across the UK and around the world, but they may help formulate challenging questions from research to practice across many disciplines and professional fields, including urban, planning, design, and health studies.

If working and learning from home has become a 'new normal', a key question which, then, arises is *how existing homes should be re-planned and re-organised as multifunctional spaces where we can actually settle down, work,*

and learn. This is critical for understanding the implications for urban planning and design if serving home as a place of living, working, learning, and socialising is a new norm of urban life. When the home becomes a (permanent) workplace, a related argument emerges about the risks of losing home as a place of intimacy, residence, and recovery from work life. Considering the variations between urban dwellers, for example, in terms of dwelling quality, types (house or flat), and size (small or large), it is also critical to understand the different experiences that city-dweller groups went through at home during pandemic-imposed restrictions. Despite saving on commuting costs, employees working from home must pay extra for the Internet/phone connections, lighting, and heating, increasing the financial vulnerability of lower-income households during long-lasting winter lockdowns. Differences in these socio-economic and spatial aspects of dramatic changes in urban home life reflect the increasing challenge of achieving the Sustainable Development Goals (SDGs), particularly SDG 3: 'good health and wellbeing' for all. This is the fact that the health and future of housing (re)development in urban areas have become of particular concern to planners and metropolitan planning authorities: whether we need to suspend housing (re)development until a vaccine or other medical solutions are implemented world-wide, and/or consider new approaches to the planning and design of our cities and houses with the spaces in between them. These are all crucial questions that require ongoing interactions between theory and practice, with a collaboration of different disciplines, stakeholders, and interest groups. Bringing evidence from the UK, we present our viewpoint, arguing three interrelated

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themes from home to urban and in-between levels: the extension of home-life activities in the era of lockdowns and restrictions; the necessity of direct access to open spaces in residential areas; and the issue of urban density and COVID. We discuss the implications for policy and practice for the current and future of home and urban life in urban settlements.

Extension of home-life activities

Reducing the radius of mobility due to the current COVID-19 physical and social restrictions has urged urban home dwellers to integrate a wide range of human activities in a smaller volume of space. More citizens than ever were urged to use their home as a (permanent) workplace, a place of learning and entertainment. In these cases, *home* is not only a place of dwelling, residence, and meaningful family relationships (Meesters 2009); rather, *home* has become elaborated with multiple activities and meanings for a wider group of citizens, including a place of safety, work, virtual socialisation, learning, and leisure. Figure 1 illustrates the extension of home-life activities in the pandemic era from primarily a place of residence and comfort to a place for work, education, leisure, and shopping. Nevertheless, separating work and home life has become unattainable in small homes that cannot provide a workspace separate from living and social spaces. Tiny and small home-dwellers have been forced to use sofa, kitchen, bedroom, or other living spaces as a workstation. This has become even more challenging when home-dwellers cannot use local areas such as urban parks, coffee shops, or libraries due to the restrictions – as such, there is no room for daily detachment from work and home as a recovery experience.

The continuity of using *home* as a permanent workplace may lead to the risk of losing home as a place of intimacy and recovery from work life, threatening home-dwellers mental health and wellbeing (O'Connor *et al.* 2020). These threats are exacerbated by household crowding. Intra-household tensions and domestic violence in the UK increased when large-size households had to re-allocate household tasks, share limited domestic spaces and resources, integrate work-life environments at home without spatial and temporal breaks (Bradbury-Jones and Isham 2020, Biroli *et al.* 2021, Preece *et al.* 2021). In addition, there is a higher risk of the spread of respiratory and other infectious illnesses in crowded households (WHO Housing and Health Guidelines, 2018), particularly when residents tested positive for COVID isolating at home. Self-isolation and treatment at home reduced the demand for hospitalisations in the UK, especially for ICU units, but raised concerns over 'homes becoming hospitals'. Such multi-activity nature of home life practiced over the pandemic has further complexed the planning and design of houses at the building, neighbourhood, and urban scale. A review of the literature highlights the significance of housing environment and socio-spatial qualities in flourishing residents' mental health and wellbeing (Fuller-Thomson *et al.* 2000, Wright and Kloos 2007, Bramley and Power 2009), but it has not been investigated this conundrum during/post the recent pandemic and its implications for healthy homes and neighbourhoods.

Statistics show that we all have been pushed to live together as a family, community, or city in a more efficient use of spaces due to physical distancing rules (*see* Jay *et al.* 2020). However, the experience has not been the same for everyone. During the first national lockdown in the UK, house-dwellers felt safer and more comfortable than flat-dwellers living in five-
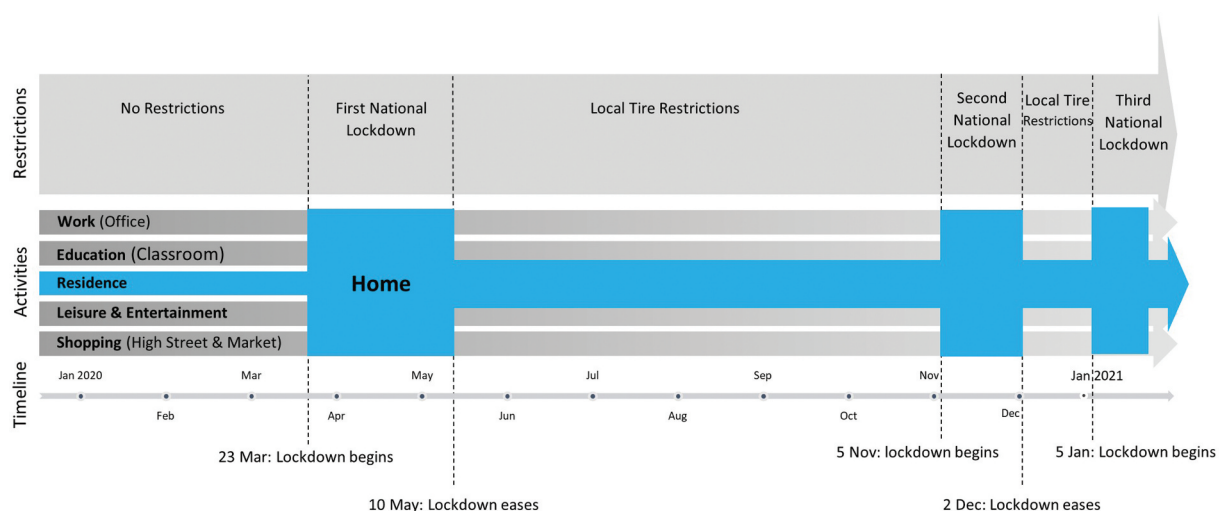

Figure 1. Timeline of the key dates and changes that occurred in the home-life activities in England imposed by the governmental restrictions from Jan 2020 to Jan 2021.

storey or higher structures, reported by the Home Comfort survey, collected randomly from 2500 households across the UK in early summer 2020 (Report of Place Alliance 2020). To the respondents, the most-valued features of urban settlements were, respectively: accessibility to open spaces such as a garden or balcony (%22), availability of (larger) spaces (%12), daylight and fresh air (%10). The pattern of results seems to be consistent with recent research that suggested the availability of immediate (semi-)outdoor spaces, accessibility to 'urban balconies', private gardens, or backyards, considerations of adequate airflow and natural lighting at home, as elements a satisfactory home experienced by citizens during the lockdowns (Grigoriadou 2020; Peters and Halleran 2020). This has a specific indication for millions of citizens in the UK, but also world-wide, who has been forced to live in small flats or poor-quality houses with activity restriction. In the current context, the increased experiences of dissatisfaction, stress, anxiety, and other COVID-related challenges at home are far more tangible among the inhabitants of small and poor-quality houses such as studio or one-bedroom flats where the whole family (of large size) are squeezed into a single room and/or normal functions of several spaces – often the living room, bedroom, and kitchen–are shared between a group of inhabitants. However, older retired adults may prefer flat living in their later stage of life with a perception of 'territorial security' and 'spatial control' as reported in some studies conducted in pre-pandemic times (Easthope et al. 2009, Mulliner et al. 2020). In addition, the results of the Home Comfort survey suggested that the older the neighbourhoods and homes were, the more satisfaction was expressed. The residents of the most recently developed neighbourhoods (built between 2010 and 2020) expressed less satisfaction than the residents of older neighbourhoods. The question may arise here is why new housing developments which may have embraced more access to public transport, walking and cycle routes are rated less satisfying than older one which are typically designed based on privately owned cars.

Recent housing development strategies have aimed to provide more and more (affordable) houses into urban sites but with smaller domestic living spaces, often with no or restricted access to outdoor spaces, lower building standards, and design criteria. The minimum size for new UK homes built since 2010 offers an average of 67.8 m², which is the lowest in the last 100 years – indicating the living spaces of the UK's new homes are shrinking. According to current space standards, the minimum floor area for building a new flat is 37 m², which is insufficient to combine effective and comfortable home and work life. Typically, new affordable compact houses are a favourable choice in responding to a rising culture of spending less time

(and money) at home, especially for the younger professionals and students where the home is just a house: a place to sleep, eat, and leave the possession. This trend can be questioned, however, by the socio-cultural assumptions for certain demographic groups at a particular life stage (see Shearer and Burton 2021) – and by the rise of recent urban-life restrictions and extended home-life activities. The long experience of lockdown and 'staying at home' mandates have reportedly caused dissatisfaction among new home-built dwellers. It is also necessary to consider that the undergoing COVID-related dramatic changes and responding to them, contribute to debates that recognise the wider importance of the local (built) environment around our homes and its characteristics (Berkowitz et al. 2020). Neighbourhoods retain an essential place in our daily life as the only realm of limited social interactions and relationships during the time of quarantine and lockdowns. Perceived neighbourhood social cohesion and social support, which is a typical characteristic of the older (small-scale) traditional-residential neighbourhoods, enable residents to feel more connected to the community and neighbours, resulted in improving 'the sense of community and social sustainability even during the lockdown' (Fabris et al. 2020, p. 526) or dramatic urban redevelopment processes (Erfani 2020, 2021).

New housing estates should also be embedded into a broader strategy for sustainable development. Reducing carbon emissions from urban sprawl has become a critical component of new-build urban housing projects. Low carbon transport and housing policies have imposed new planning requirements and retrofit measurements such as carbon taxes or collective heating systems (Cherry et al. 2017, Bobrova et al. 2021). Increasing evidence supports the health and environmental co-benefits of relying on active modes of public transportation systems rather than using private vehicles (Smith et al. 2016). In the long-term, the deleterious effects of unsustainable housing development and dependency on private transportation could even outweigh the negative impact caused by COVID-19.

Direct access to open spaces

During the COVID pandemic and after the first experience of national lockdown in the UK, citizens more appreciate living in houses with direct access to (private) open spaces such as home balconies, terraces, gardens, or yards. More than 70% of respondents in the post-lockdown survey conducted by a real estate agency (Rightmove, May 2020) reported access to gardens and outdoor spaces had become their highest priority when buying a home. The respondents were randomly selected from potential buyers and sellers across the UK with a sample size of over 4,690

individuals. The other high priorities were access to high-speed wireless internet (48%) and a dedicated separate space to work from home e.g. home office (44%). The long experience of lockdown and other associated restrictions, including self-isolation and working from home, have significantly affected home-buyer's behaviours towards housing selection as well as residents' wellbeing.

Studies have also highlighted post-traumatic stress and mental pressures exacerbated or triggered by COVID depression and anxiety as barriers to public health and community-building needed for overall citizens wellbeing (Ding *et al*. 2020). The experience of socio-spatial and health difficulties has enhanced our environmental awareness of the restrictions posed on the public and the critical role of accessible open spaces in our daily life at home. Having direct access to (green) open spaces is not a luxury need, rather it is an essential requirement to maintain the public's physical and mental health by providing exposure to fresh air, daylight, and view to the natural environment when citizens are obliged to work and perform all human activities at home. This issue is more challenging for citizens with pre-existing mental health, social, behavioural, or learning impairments (*see* Office for National Statistics, September 2020) and in extreme climates where access to fresh air and daylight is very limited during the year (Meo *et al*. 2020).

The experience of the pandemic shows the importance of *accessibility* and *safety* as two primary concerns for using urban green open spaces in case of crisis and extreme situations. In low- and medium-density urban areas such as small cities and towns in the Northeast of England, house dwellers benefited from direct access to private green open spaces, used as social space and recreation facilities under 'social distancing' restrictions (Figure 2). However, public green open spaces, either natural or human-managed environments, are often unequally distributed in urban settings. Such inequality in access to green spaces and fresh air is more challenging in highly populated and high-density settlements, where many citizens are living in flats without having direct access to open spaces and urban parks (Figure 3). Having access to large-scale, high-quality urban green spaces that allow citizens to walk and cycle safely without breaking the social distancing rules has recently become a valued urban asset in dense urban settlements. Some real estate search websites, such as SearchSmartly, mainly covering London, have integrated the distance from green areas and local air quality ratings to all their listings. However, as several studies discussed (Yen *et al*. 2017), access to urban green open spaces is mainly based on users' perception of having safe and easy access, rather than the proximity or scale.

The identified outcomes and experiences during COVID pose fresh problems for most disadvantaged socioeconomic groups and urban home-dwellers with no (direct) access to gardens, allotments, or communal green spaces. We need to build critical thinking about urban green systems not only as an isolated 'greenery nature', but rather as interconnected and multifaceted ecological systems that benefit public mental and physical health, boosting local-regional economy, and urban mobility opportunities during extreme crises. This raises leading questions for both theory and practice in the (re)development of green infrastructure policies and further collaborations of interrelated disciplines of environmental psychology, landscape, and urban planning. A novel approach with multidisciplinary stakeholder involvement is

Figure 2. Home dwellers in low- and medium-density urban areas of the Northeast of England benefit from direct access to private green open spaces, allowing socialisation under 'COVID-19 social distancing' restrictions.

Figure 3. There is no direct access to open spaces such as balconies for the flat dwellers in Newcastle-upon-Tyne (Northeast, England).

essential to understand and manage the multiple impacts of COVID and other extreme threats within complex urban settlements, and how they should adjust and respond.

Urban density and COVID

Historically, British major industrialising cities such as London and Manchester have suffered from poor public health conditions mainly due to the issues of environmental pollution with low ambient air quality, poverty, and inadequacy of medical services (*see* Stradling and Thorsheim 1999, Kelly and Fussell 2015). The rise of COVID-19 has adversely affected the pre-existing health conditions in the UK urban areas and relatively increased death rate and treatment requirement services (Mishra *et al.* 2021, Travaglio *et al.* 2021). The longer-term impacts of COVID-19 have not been fully recognised yet, but what is clear is that residents of populated urban areas are the most vulnerable. According to the latest figures from the Department of Health recorded for the last week of 2020, London, Birmingham, and Liverpool have all recorded the infection rate of 6 or higher in every 100 citizens, whereas the rural areas of the Southeast of England have only reported the rate of 3 or less. Although there is a wide range of reasons for these multifaceted statistics, urban proximity has been recognised as one of the influential causes.

When more citizens live in smaller areas, the proximity to others reduces, and therefore, epidemic outbreaks are more likely to spread around in higher urban density (Alirol *et al.* 2011, Scott 2017). Since the COVID-19 virus can spread rapidly in crowded areas, new safety regulations and protocols were introduced to maintain physical distance in urban spaces –

resulted in inverting urban norms such as emptiness of public spaces, offices, shopping centers, business stagnations, and many other urban-life restrictions. In academia, this has also been a part of a larger discussion on the impacts of various modes of urban density on the outbreak of COVID.

Many pro-density studies have argued density and repopulating as a potential solution for urban social sustainability (Kyttä *et al.* 2016), infrastructure and public services (Lehmann 2019), economic growth (Duranton and Puga 2020), and climate and environmental changes (Cheshmehzangi and Butters 2016). These arguments consider *density* as the most important or one of the most important factors influencing energy and land consumption, travel choices, liveability, and sustainability of public places. Nevertheless, COVID-19-related restrictions and policies have recently proposed de-densification of residential areas, emptiness in educational classrooms, urban spaces, and public places. Evidence from historical studies shows that higher-density settlements are more likely to transmit various infectious diseases (*see* Alirol *et al.* 2011, Scott 2017). We have also witnessed a range of behavioural changes throughout the pandemic: changes in urban mobility patterns such as spatial redistribution and reduction of the urban population in dense areas (*see* Arimura *et al.* 2020), a significant shift from Britain's high street retails to online shopping (Chesson 2020), customers' attitude towards the UK housing market, and desire to move from high density to low-density areas (Rightmove 2020).

Some of these behavioural changes, or intentions of changes, in responses to COVID similarly occurred in previous centuries when infectious disease outbreaks spread around urban settlements. The affluent residents of European citizens moved out of the dense areas of

cities to the suburbs and countryside during the medieval plague epidemic (*see* Carmichael 2014), and similarly city-dwellers in the UK large cities want to move to a village during the COVID pandemic. The data taken from Rightmove, the UK's largest online property search platform, have revealed that home buyers in April 2020 are eager to move out of the large cities such as London, Liverpool, and Edinburgh (Figure 4). Such demand reminds the perception of urban settlements as a breeding ground for diseases and countryside environments as a safe and clean place. However, it is important to consider that all these historical shifts from urban to rural, high-density to low-density, have always been large but temporary. In addition, there is increasing evidence supporting that urban density may not be 'an enemy in the Coronavirus fight' (Fang and Wahba 2020) or even Japanese cities with high urban density have relatively been successful in controlling the primary impacts of COVID (Tashiro and Shaw 2020). This 'achievement' in Japan was primarily attributed to incorporating key policy-related measures such as science-based decision-making or scenario-based planning into health-related contextual factors, including citizens' lifestyle, food habits, and behaviours.

Although there is no consensus on the optimal level of urban density between pro-density and pro-expansion studies, the key question may arise here is how urban density should be approached during and post COVID, socio-economically, spatially, and environmentally. It is important to scrutinise how urban density, form, and scale, may work better for home-dwellers in urban residential neighbourhoods during the period of working at home, isolation, and physical distancing. A major challenge for planning authorities, urban designers, and theorists would be bringing citizens together safely and sustainably in urban public places. This has an indication of a need to explore the link between hygiene and planning/design attitudes towards urban density, an important area in which little research currently exists. Such focus requires re-conceptualisation of urban density from different perspectives (citizens, experts and professionals, local and national authorities) and approaches practiced across the world during/post COVID to incorporate knowledge exchange, providing opportunities for interactions and exchange innovative ideas.

Implications for research, practice, and policy

The COVID-related crisis has further highlighted the vulnerability of current urban systems of housing, employment, education, commuting, and healthcare services, increasing demands and pressures on home-life activities. This is one of the main conclusions that so far emerged, implicating a growing need for revising urban systems and related activities – specifically the essential qualities of home environments and inhabiting urban spaces during the current and potential future pandemics. These are the key areas that need to be addressed with a new approach integrating planning and design of urban settlements with other related urban spaces. Integration and improvement of urban systems are critically required to ensure safe and comfortable living, working, learning, entertaining, good health, and wellbeing during a public health crisis.

The lessons learned so far from the pandemic, and its consequences, have provided an opportunity to address some challenges in urban homes by revisiting current urban planning (re)development processes, regulations and policies, standards, and codes. We call for planning and regeneration policies that permit urban housing (re)development that provide minimum spatial qualities for all home-life activities and foster tax incentives for home renewal that provides direct access to open spaces, whether it is a garden or balcony, as well as quality neighbourhoods and urban settlements that facilitate walking, cycling, and access to green spaces. National building standards and regulations require a major reconsideration to allow a healthier urban life and work environments during any potential lockdown in the future. This requires
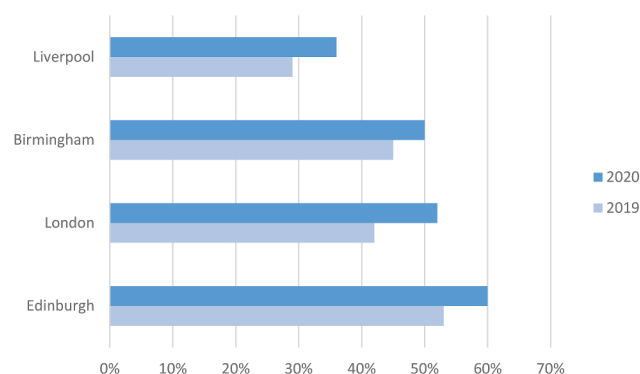

Figure 4. The percentage of home buyers eager to move out of their city has significantly increased after the first experience of lockdown across the UK (Source: Rightmove, press lease report, May 2020).

reviewing and adopting resilient spatial planning policies that integrate urban density and mobility at urban, neighbourhood, street, and building levels, which should aim to overcome or mitigate the consequences of extreme crises.

At the building level, the optimisation of domestic spaces for tiny and small houses should be widely considered as a useful strategy for responding to the pandemic-induced challenges and anxiety at home. For example, acoustics divisions have become more important at home when different family members have Zoom meetings or home-schooling video calls at the same time. In this case, separable spaces are the requirements that needed more than flowing spaces, e.g. bedrooms can be spaced apart for acoustic buffering as working spaces. Spatial resilience allowing to optimise the use of domestic spaces is another area of the initiatives. Internal walls are typically static, but if home-dwellers can move them easily and re-plan their spaces according to their daily needs, that would be a beneficial system. Involvement in such spatial reorganisation as a home-based fun activity would contribute to improving family resilience and children's wellbeing during stay-at-home orders.

At urban and neighbourhood levels, we call for reducing inconsistent overlapping regulations and (formal) bureaucratic barriers (e.g. funding policies and planning regulations) in relation to incorporating resilience in tactical rigid urbanism approaches. We require a proactive approach in responding to the pandemic, enabling resilient housing systems that predict (and/or prevent) such issues while integrating the healthy/nurturing aspects of urban home life into the housing system, especially for disadvantaged socioeconomic groups. Such an integrated approach requires a wider and deeper understanding of the complex current situation. Moving towards 'transformative resilience' (Rippon *et al.* 2020) requires a more inclusive participatory approach involving all different stakeholders from very earlier stages specifically at regulation and policy making, planning and decision-making processes, enabling to bring new perspectives, layers, and initiatives to the discussions around the pandemic, its consequences, and how they might be addressed.

The outcomes of the pandemic within urban settlements have deepened the environmental and socio-spatial inequality gaps between different socio-economic groups and communities. These complex and multi-layered issues cannot be tackled simply by physical (re)development of urban settlements and/or reviewing current regulations. We are in a complex situation that requires further ongoing interactions between theory and practice as well as collaborations and engagement between different disciplines, stakeholders, and interest groups than ever. If the pandemic continues for a long-term period, the question would be whether COVID-19 can provide us an opportunity to tackle some of these challenges and socio-economic inequalities. We suggest strategies for re-balancing the inequalities, which requires a huge effort from everyone, including national and local governments, institutions, professionals, citizens, and communities.

Disclosure statement

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

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