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Urban Design- Healthy Cities

Healthy cities: the evidence and what to do with it

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Health and the environment

Cities have driven positive economic and social developments for many years, but nowadays urban living and activity are damaging human health and wellbeing as well as ecological systems. Urban settlements might only use 2% of the total land, *but make up 70% of global GDP, over 60% of global energy consumption, 70% of global greenhouse gas emissions and 70% of global waste* (UN HABITAT, 2016). Based on these statistics, *the future of the world's climate will be decided in the cities* concludes the German Advisory Council on Global Change (WBGU, 2015). Within European affluent and economically dynamic environments, city dwellers often ignore the links between their own resource use and its environmental impact until floods occur or newspapers headlines highlight the death toll of air pollution.

Of course urban health is not just determined by the state of the environment or the effectiveness of resource management, but also by how individuals or groups experience and use the city, its buildings, streets and neighbourhoods. Global economic and political drivers including domestic and international migration or ageing population, can also affect health and wellbeing, potentially contributing to non-communicable diseases, including mental ill-health.

Overall, individuals and organisations share the responsibility for exposing people to multiple health risks in cities. Built environment professions themselves have contributed to urban growth at the expense of the environment, well-being and social equity. Yet planners and urban designers are also in a strong position to encourage more sustainable and healthy behaviours. More challenging, but even more rewarding for them, is to make the city a more equal place for all. An increasing body of evidence from public health, medicine and environmental science can support professionals in the built environment to transform challenges into urban design opportunities.

The evidence on urban design, health and wellbeing

Research links place with well-being in a variety of ways including the influence on physical activity, provision of privacy, safety and security, closeness to nature, accessibility, sense of attachment to a place, independence and equality (Burton, 2015). Happiness is also emerging as a facet of our urban health which can be delivered through urban design (Montgomery, 2013). Individuals are happier for instance when living in urban areas with greater amounts of green space (White et al, 2013).

Built environment for a healthy planet and healthy people

Evidence on environmental health probably offers the most compelling argument for built environment professionals to rethink how we work, play and move around the city. In the 20th century, improved transport links and personal mobility have encouraged urban sprawl in Europe and urban transport now accounts for more than 50% of emissions of air pollutants. Indoor and outdoor air pollution remains the biggest single environmental health risk; outdoor air pollution kills around 3 million people each year. Globally, only one in ten city dwellers lives in a city that complies with the WHO Air quality guidelines (WHO, 2016).

Urban designers, architects, transport and urban planners can contribute to reducing air pollution by promoting a range of policies in transport, urban planning or power generation for cities (Prüss-Ustün et al., 2016). We can prioritise rapid urban transit, walking and cycling networks in cities and inter-urban freight and passenger rail travel. We can make it easy for people to safely park their bikes. With so much evidence linking urban living with air pollution, some cities have modelled urban transport for a healthy city. Dresden's Sustainable Urban Mobility Plan is based on the three overarching aims of meeting the mobility needs of the population, meeting the mobility demands of the economy and reducing the undesirable consequences of traffic. (POLIS 2011). Copenhagen and Kuopio have prioritised walking, cycling and public transport in their city centres. Freiburg has developed urban extensions on new tramlines, reducing car use.

Tackling pollution and promoting active travel through compact cities also creates the right environment for physical activity. In our sedentary societies, increased levels of physical activity have proven health benefits for adults and children, reducing a number of chronic and cardiovascular diseases. Architecture, city and transport planning can encourage people to be more active. Research has shown that the following features of the built environment features identified by research to promote physical activity:

- Compact neighbourhoods and higher residential density
- Good public transport facilities within easy residential reach
- Networks of parks and public open spaces
- Local access to shops and services
- Access to sport and recreational facilities
- Active travel facilities: pedestrian areas, cycle lanes
- Feelings of safety: well-lit streets, natural surveillance from buildings

Clearly there are also health benefits to improving energy generation, industrial processes and waste processing, to make them more efficient and less polluting. Neighbourhood-wide combined heat and power generation and on-site renewable energy and waste systems can all play their part.

Finally with cities associated with stress and depression, perception of crime and other attacks on mental wellbeing, evidence shows that a more positive and holistic urban experience can be supported by urban design at home and neighbourhood levels, as Layla McCay's article shows.

Using the evidence: be strategic

Urban systems - heavily regulated and pressured by the market, multi-level governance and funding - can be a challenging place to implement scientific evidence advocating healthier place-making. There are signs, however, that professional silos and conventions (Carmichael et al., 2012) are starting to shift in light of the evidence base. Opportunities are starting to emerge to develop collaborations for sustainable and healthy environments through strategic approaches such as the European Green Capital Award which supports innovation, multi-sector partnerships with experts and academics, and exchange of good practice. Copenhagen, Malmo, Stockholm, Bristol and Ljubljana have all exploited their green credentials. 'Eco-towns', such as Stockholm's Hammarby Sjostad can also drive local innovation and partnership building to tackle climate change and deliver health benefits. . In the UK, NHS England's current Healthy New Towns programme is using cross-sector partnerships with local public health teams to achieve better health outcomes in housing delivery projects.

Over the last two years, a seminar series led by the World Health Organisation Collaborating Centre for Healthy Urban Environments and Public Health England, and funded by the Economic and Social Research Council, showed the demand from built environment and public health professionals in the UK to improve their mutual understanding and increase collaboration between these disciplines. There were also calls for better sharing of evidence and good practice from around the world, in an increasingly resource-poor local authority environment (Carmichael et al., 2016).

Built environment professionals are instrumental in using the evidence on healthy urban design and communities. But how easy is it to convince national decision-makers to take evidence into account? In the UK, there have been many calls for a Chief Architect, Built Environment Advisor or strategic unit to advise government and reintroduce expert leadership and evidence into national built environment policies. Some in the civil service and the professions however express doubt about establishing such a structure, citing the short-lived precedent of Chief Construction Advisor in the UK (2008-2015) and the failures of attempts to set up similar structures in the USA, due partly to deep rooted institutional silos (Findings of ESRC funded roundtable in the House of Commons, 1st November 2016, Carmichael, Ogilvie and Lock, 2017). So if partnership with government offers precarious alliances, who should built environment professionals partner with in order to act on the evidence about healthy urban design?

First, collaboration is needed with the research sector to build on the findings of academic studies which, however rigorous, do not necessarily offer an exact fit to inform built environment policies and shape healthy cityscapes. Research will not necessarily explore qualities and features of the built environment that can be easily imposed on developers as no policy or statutory hooks are in place. Professionals can help science ask the right questions and present findings they can act on. With research councils and other funders now requiring research projects to tackle societal challenges, collaborate with stakeholders and communities and deliver research with impact on policies or on professional practices, it has never been a better time for built environment professionals to engage with researchers to explore specific topics. Use of social media can bypass the need for introduction and academics will be

receptive to suggestions. Built environment professionals can help secure market and policymakers' buy-in of evidence-based design for health by testing research findings in the real world. Witness to this change is for instance our ESRC-funded seminar series already mentioned, which engaged with key stakeholders in the development process, and our Wellcome Trust project "Factoring long-term health impacts into urban development". The project funded under the Wellcome Trust's Our Planet, Our Health programme (https://wellcome.ac.uk/what-we-do/our-work/our-planet-our-health) aims at exploring the barriers and opportunities in creating healthy urban environments through collaboration with the UK's major delivery agencies and public engagement exercises.

Collaboration between researchers and practice must remain ethical and rigorous of course and academics kept aware of balance of power in policy and market processes. Developers will be interested in whether health sells houses, with potentially the perverse effect of pricing many out of the market. Local authorities will be interested in the cost for the community and for healthcare systems of bad design and how built environment can promote health equity.

Second, built environment professionals can help develop guidance or toolkits that embed research findings into urban design through design criteria for health, wellbeing and sustainability at buildings, neighbourhood of city scale. Examples include Berkeley Group's 13 criteria for successful places, WHO's healthy planning principles and BREAAM Communities.

Third, built environment professionals can also engage with local communities to co-design healthy places or use Health Impact Assessments. Expert evidence offers scientific answers to a human environment, but nothing replaces user experience. With ageing of the population in particular, local communities can help identify urban design challenges and opportunities for an age-friendly city. Tools such as the Place Standard (www.placestandard.scot) exist to help communities and practitioners assess places for health, wellbeing and equity.

Finally, built environment professionals can use the evidence base in creative ways. Bringing together the right partnerships, the right funding and the right design for *new* communities is one thing, but even more creativity is needed to retrofit health into *existing* communities – the main way in which most of the urban population can benefit from healthier cities.

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