

HEALTHY AND SUSTAINABLE PLACES: State of the art in research and practice

Symposium findings

The Health and Wellbeing Agenda

The recent rise of the health and wellbeing agenda among building designers and urban planners has emerged as a powerful platform for a shift from environmental sustainability drivers to a more holistic human-centred design approach.

Building and urban design are fast becoming key instruments in promoting human health and wellbeing whilst simultaneously meeting current environmental challenges, such as achieving current climate change mitigation and adaptation targets. The way we think about health and wellbeing has changed – there is now a widespread understanding that health is not just about our individual physical state, but is connected to wider social and environmental determinants.

Health and wellbeing in the built environment is a complex system, with a range of interchangeable, interrelated factors. For instance, the air we breathe, the social networks we have, the housing we live in and sense of community all impact upon our health and wellbeing.

Health and wellbeing in the built environment is a growing and very influential part of the [UCL Institute for Environmental Design and Engineering's](#) (IEDE) activities, and will be a dominant theme in the built environment industry and public health policy arenas in the future.

UCL IEDE's teaching and research tackles some of the greatest and most complex issues facing our daily environment. Our research and teaching pursues a deeper understanding of the interactions between the built environment and health, human wellbeing, productivity, energy use and climate change. Our goal is to deliver interdisciplinary built environment research to improve health, wellbeing and sustainability. Our specialist expertise in temperature, moisture and air quality, light and lighting, and acoustics and soundscapes is underpinned by systems thinking to understand how different elements interact to create buildings and spaces where people can live healthy, fulfilling lives.

What does this mean in practice? Ultimately, it means aim to make our buildings, towns and cities better places in which to live, with a focus on health, human well-being, productivity, energy use and climate change. For instance, in 2017 we launched the [Health, Wellbeing and Sustainable Buildings MSc](#) in response to the demand for a new generation of experts to drive the agenda in the built environment, working in ways that are sustainable and innovative.

Healthy and sustainable places symposium: State of the art in research and practice

On 10 July 2019, over 120 researchers and practitioners came together for an evening symposium, exhibition and reception to celebrate the IEDE's world-leading research and teaching activities in this area, and explore emerging health and wellbeing themes across academia, industry and policy. The event was part of [Bartlett 100](#), a year-long celebration in 2019 to mark 100 years since the naming of [The Bartlett Faculty](#).

Speakers included IEDE's Prof Mike Davies, Dr Marcella Ucci and Prof Jian Kang providing an academic perspective, as well as Dr Clive Shrubsole, from Public Health England, Dr Julie Godefroy, Chartered Institution of Building Services Engineers (CIBSE) and Mark Lumley, Architype, who provided practitioner perspectives.

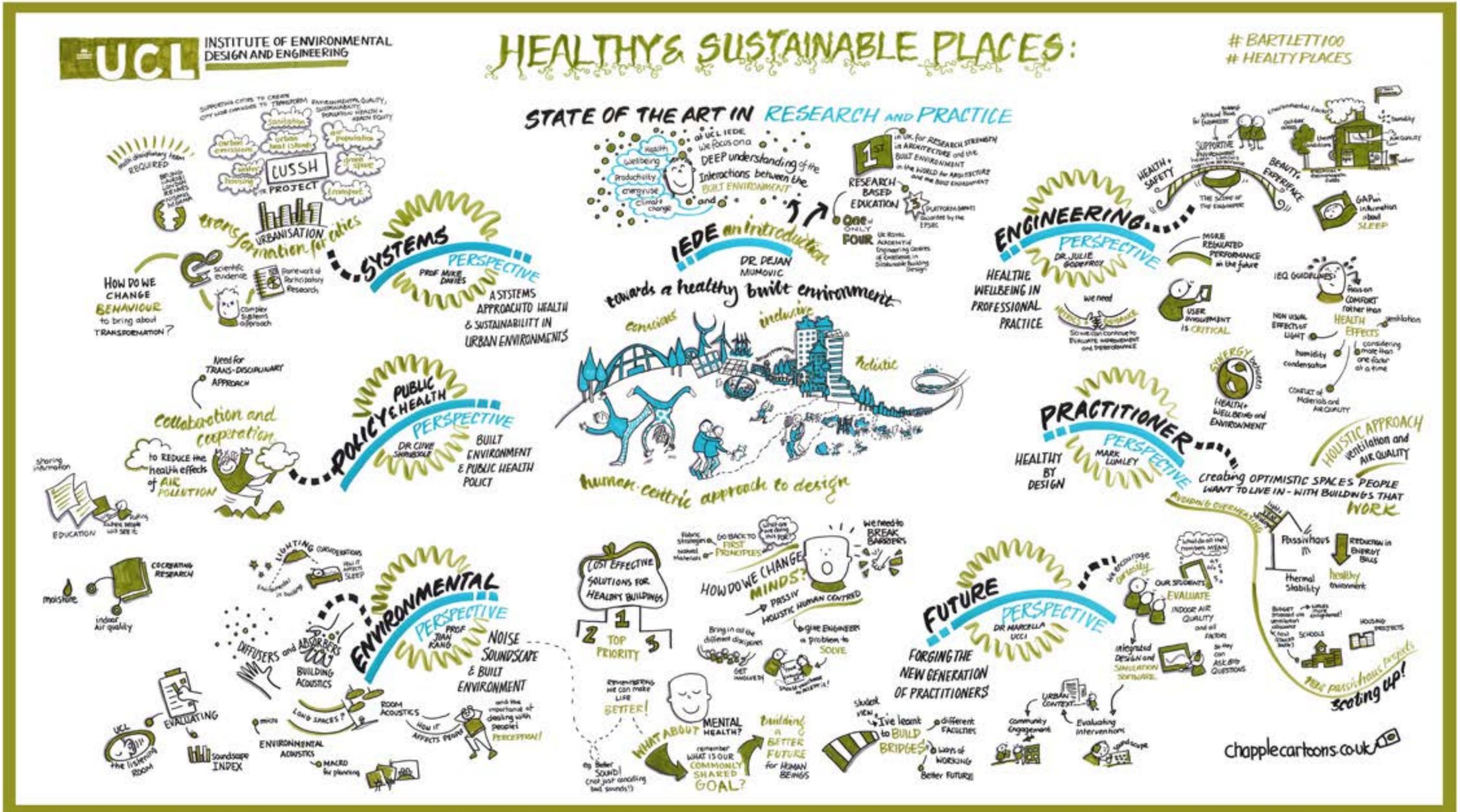
Throughout the course of the evening, the audience, which comprised of research, industry, students, third sector (and more), were asked to answer polls via the interactive, online platform (Slido), and also pose questions to our panel. This led to a lively debate on the opportunities and challenges of research and practice in this field. An illustrator also captured the contents of the discussions live as they transpired.

The event was followed by an exhibition of posters which showcased the work of researchers, students and our industry partners.

A copy of the event's programme is included at the end of this pamphlet.



Illustrating the discussion





Creating healthy places: emerging themes

The audience's responses and questions from Slido, in addition to the illustrator's visualisation of discussions concerning the future of healthy places, give a sense of the pertinent questions for future practice and research.

The audience wondered how we could navigate the complex relationship of cities, environment and health, for example looking at issues of mental health and decarbonisation.

When asked what they thought the top knowledge gaps among professionals related to sustainability, health and wellbeing in the built environment are, responses were quite diverse. About 20-30% of respondents believed that data and evidence, the impact of biophilia, and our understanding and definition of 'health and wellbeing' were key factors.

The issue of cost and cost-effectiveness was mentioned also, as well as how to identify and implement suitable benchmarks and performance criteria. In addition, learning about broader aspects and to work across disciplines was considered important, e.g.

"Wide knowledge (we tend to specialise too much) and collaboration with different disciplines to better understand all aspects of the built environment"

The importance of cost-effectiveness is echoed also in that the vast majority of the audience (73%) selected "cost-effective healthy design measures" as the top answer to the question "More research is needed".



Blue sky ideas

"Within the means of our planet, how can buildings and cities be designed/managed to deliver health and wellbeing whilst reducing inequalities?"

Responses centred around four themes:

1. interdisciplinarity,
2. money/costs, and tensions between profit vs public good,
3. human-centric focus, inclusivity and engagement,
4. overarching processes – e.g. systems, timescales, whole life costs/impact.

As one attendee noted, change could stem from *"interdisciplinary research, civic engagement [and] bottom up design..."*, whilst others believed that change could come from prioritising public good over financial gain, as inequality can stem from high price tags:

"By allowing for interdisciplinary research, civic engagement, bottom up design and giving a more powerful voice to arts and culture"

"Healthy buildings trend to be pricy and can cause further inequality. Incentivise taxes, wealthy to pay for those who are less fortunate"

"How can we combine quantitative/metrics led evidence such as that of IEDE with social and participatory research to holistically address env. challenges?"

Others focused on the design process itself, regulations, and balancing immediate gains versus long term goals:

"Better regulation and encouragement, find ways to improve performance now without jeopardising next step improvement"

"How do we prioritise/ balance funding between long-term slow solutions with quick and 'dirty' immediate fixes?"



Nexus across policy, behaviour and policy solutions

The blue-sky ideas resonated with findings from the poll asking about the nexus across policy, behaviour and technological solutions: *“Between technology, policy, behaviour or other measures, what affords the greatest opportunities for sustainably and equitably delivering health and wellbeing in buildings and cities?”*

The audience views were more polarised, with the majority (53%) voting for policy, whilst 38% believed that changing behaviour was the key factor. Surprisingly perhaps, less respondents believed technology to be the key.

“Most Builders usually only change their practices when regulations change. Very few are interested in leading.”

“It all comes down to behaviour to me... I feel like policy will always be inadequate so it comes down to individuals and organisations making their own rationales for adopting more sustainable and healthy practices in the built environment. Technology will be a product of that”

Nonetheless, some respondents did mention technological solutions such as:

“Can we use tech (VR/AR in with BIM/CIM - City information modelling) to simulate & test scenarios and their effect on mental, physical, environmental health?”

“Mandate for wider Education of building designers in thermal and acoustic matters and legislate for passive materials systems which assist in, for example, cooling. High decrement insulants and passive cooling with external shading are vital parts of the solution... Ban fully glazed facades”

“To change the mindset of a generation, you can't simply rely on the human factor to be reasonable and responsible. It is essential to establish global policies that all the countries and individual parties have to follow. In addition to that each and everyone of us has a duty to think in a holistic manner before designing.”

“Community-led approaches must be the future - to embrace inclusivity, and sustainable approaches to development. Co-design! ”

“Perhaps the most sustainable building is the one that is not built! We could better share and operate our existing buildings and resist building more and more!”

“Do mega-cities have a negative impact on health and well-being? Should we work against them or embrace them for allowing lower carbon solutions?”

Final thoughts

The discussion has urged us to think differently about what health and wellbeing means in the built environment, to whom and how to achieve it. We need to develop creative, collaborative ways of researching and investigating health, wellbeing and sustainability in order to bring about meaningful and impactful change. Key themes emerged such as:

- Adopting a systems' approach;
- Inter/trans-disciplinary ways of working;
- Forging a new generation of practitioners, able to work across disciplines, to cope with uncertainty, the competing demands of a human-centric and community-led approach;
- Metrics which leverage the latest evidence on environmental/wellbeing performance, are able to balance long-term vs short-term gains, and support cost effective solutions.
- Driving and facilitating the collaboration across research, policy and industry.

These aspects align well with the core aims and expertise of IEDE, and we do so by tackling the overarching themes raised by our panel and audience, including: systems, evidence, and collaboration across research, policy and industry. The new MSc Health, Wellbeing and Sustainable Buildings furthermore aims to nurture a new cohort of professionals with diverse skillsets that can tackle these issues. As current student Ankita Dwivedi described:

"I've learnt how to build bridges, connecting architecture to engineering, psychology, and social sciences."

This broader, more holistic scope, coupled with IEDE's expertise in a number of domains, carves a path for us to push the state of research and practice, and to help deliver healthy places for all.



Symposium Programme

Healthy and Sustainable Places: State of the Art in Research and Practice

17.30 Welcome & Introduction to IEDE Prof Dejan Mumovic, UCL IEDE

17.40 A systems approach to health and sustainability in urban environments – an international perspective, Prof Mike Davies, UCL IEDE

17.50 Noise, soundscape and built environment, Prof Jian Kang, UCL IEDE

18.00 Built environment and public health policy: challenges and opportunities, Dr Clive Shrubsole, Public Health England

18.10 Health and wellbeing in professional practice – an engineering view, Dr Julie Godefroy, Chartered Institution of Building Services Engineers (CIBSE)

18.20 Forging the new generation of practitioners, Dr Marcella Ucci, UCL IEDE, and Ankita Dwivedi, current MSc HWSB student

18.30 Healthy by design – a practitioner perspective, Mark Lumley, Architype

18.40 Interactive audience activities - Chair: Helen Pineo, UCL IEDE

19.00 Quick fire talks - Staff, students, business partners

19.15 Network, exhibition viewing, drinks and canapés

Exhibitors

1. Phil Symonds, UCL IEDE, "Data, data everywhere but not a space to think..." – selected research projects from CUSSH (Complex Urban Systems for Sustainability and Health).

2. Hector Altamirano, UCL IEDE, "The UK Centre for Moisture in Buildings".

3. Francesco Aletta, UCL IEDE, "Soundscape Evaluation and Indicators for Delivery Sound Environment"

4. Elizabeth Cooper (on behalf of the Quasimodo project), UCL IEDE, "Indoor air quality and wellbeing: testing an Early Warning Sign for IAQ exposure management (Quasimodo project)"

5. DaeWha Kang, DaeWha Kang Design, "Collaborating with UCL for wellbeing evaluation of The Shard Living Lab project".

6. Arthur Keighly and Brian Clarkstone, Eltek, "Developing and testing IEQ monitoring equipment in collaboration with UCL".

7. Young Lee, UCL IEDE, "Workplace health & wellbeing: linking the environment to organizational health outcomes".

8. Dzhordzhio Naldzhiev, UCL IEDE, "Novel retrofit technologies for lower energy healthy buildings" (selected research project from SEAHA feeding into the new CIBSE TM61 guidance").

9. Charlotte Johnson, UCL IEDE, "Community water management for a liveable London".

10. Dejan Mumovic, UCL IEDE, "Indoor Air Quality in Schools: Mayor of London Report".

11. Gizem Izmir Tunahan, UCL IEDE, "The impact of different past climatic experiences on human adaptation".

12. Ankita Dwivedi, Hana Hussein, Gomathi Krishnamoorthy, Marie De Montaigne De Poncins, Christian Guerra Gavilanes, UCL IEDE MSc students, "Integrated Building Design for Health, Comfort and Wellbeing".

13. Xiaorong Xu, graduate student from MSc Health, Wellbeing and Sustainable Building, "Biophilic design and impact of plants on indoor air quality".

UCL Institute for Environmental Design and Engineering

UCL IEDE pursues a deeper understanding of the interactions between the built environment and health, human wellbeing, productivity, energy use and climate change. We are part of The Bartlett: UCL's global faculty of the built environment.

ucl.ac.uk/bartlett/environmental-design/
[@UCL_IEDE](https://twitter.com/UCL_IEDE)

Bartlett 100

The Bartlett turned 100 in 2019. 100 stories. 100 Events. 100 Years. Find out how we're celebrating.

bartlett100.com
ucl.ac.uk/bartlett



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