HEALTHY CITY DESIGN INTERNATIONAL

RESEARCH • POLICY • PRACTICE

10-11 OCTOBER 2022

ROYAL COLLEGE OF PHYSICIANS, LONDON

FINAL PROGRAMME

THE NEXT FRONTIER

DIVERSITY, INCLUSIVITY AND OPPORTUNITY FOR ALL

W: www.healthycitydesign.global | E: info@salus.global

@HCD_2022 #HCD2022

Organised by:

SALUS GLOBAL KNOWLEDGE EXCHANGE

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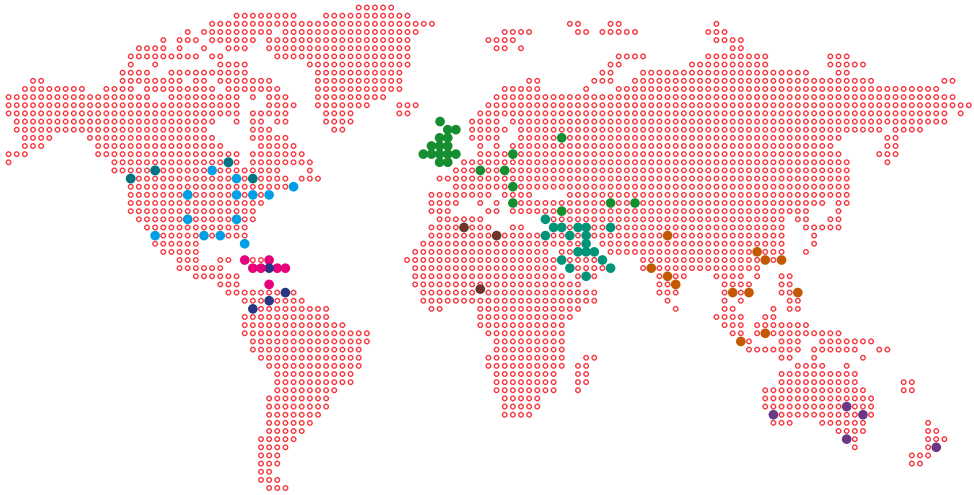
LLEWELYN DAVIES

- Architecture
- Master planning
- Urban design
- Interior design
- Graphic design



Regarded as the UK's most successful exporter of hospital planning and design, Llewelyn Davies has delivered over 250 healthcare projects in more than 80 countries worldwide over the last 6 decades. We are active in Africa and the Middle East and are currently working on several major hospitals in Greece, Trinidad & Tobago and Jersey.

In the UK, Llewelyn Davies maintains its position as a proponent of flexible, patient-centric solutions for a range of primary, community and acute care developments. Our deep understanding of master planning further underpins our value to healthcare clients in estate planning and in complex planning environments.

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Dear colleagues,

The extent to which the pandemic truly tested social and health resilience has led to growing international resolve to create a new urban future in which issues of health equity, social value, diversity, access and opportunity in our cities and communities are addressed, enabling health-creating societies to flourish.

Smart technology, science and innovation will be influential in shaping this future. So will new approaches to urban design, planning and governance. And far-reaching research and theoretical models will be needed to underpin an evidence-based approach, as our cities are redesigned to embrace the circular economy and planetary health principles that also promote health equity.

Inclusive design has broadened recently, shifting from a focus on the rights of older and disabled people in relation to the built environment to embrace race, gender, technological exclusion, and economic fairness. Inclusive health has also advanced, tackling health disparities through equitable access and participation.

Now is the time to reimagine the city for all. 'The Next Frontier' will see new amalgams of expertise addressing vital questions around inclusion and diversity in the fields of design, technology, urbanism and health. Businesses will lean into these as part of their ESG commitments. Architects and engineers will plan for the complexity that comes with a wider range of needs and desires. Public health experts will pilot fresh approaches and technology providers will seize the moment. In summary, this year's Congress will ask: how can designing for inclusion, diversity and social equity support healthier lives in a thriving urban realm?

Bridging the gap between research, policy and practice

The Congress is a global forum for the exchange of knowledge on the research, policy and practice of designing healthy and sustainable cities and communities. Each day features keynote plenary sessions and four parallel streams (eight in total). Day one looks at: homes and neighbourhoods; population health; planetary health; and transport and mobility. Day two covers: urban design, planning and public realm; smart cities, work and workplace; inclusive and accessible design; and designing for young and old.

In the final session, we will be presenting awards in the following categories: **Best Poster** – for the poster that conveys new research or practice in the most informative, succinct and visually stimulating way; **Best Research Paper** – for the paper that addresses the Congress theme of 'Diversity, inclusivity and opportunity for all' in the most original and thorough way; **Most Innovative Idea** – for the single concept, model, tool, framework or project that breaks new ground in thinking about the design of healthy cities; and the **Healthy City Design Champion** – for the individual or organisation that has done exceptional work of international significance over an extended period to advance the field of healthy city design.

Returning in-person for the first time since the pandemic, we will also be welcoming virtual delegates, who will be able to access live streaming and much more via the event platform and mobile app (see pp08-09), including the Video + Poster gallery of innovative research and projects (pp28-30). And we also look forward to welcoming those delegates who have booked to attend our Evening Networking Dinner (p31) on Monday 10 October. We hope you all have a fantastic Congress.

Prof Jeremy Myerson
The Helen Hamlyn Centre for Design,
Royal College of Art
Director, Worktech Academy

Marc Sansom
Director
SALUS Global Knowledge Exchange


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THE ROYAL COLLEGE OF PHYSICIANS

The 6th Healthy City Design International Congress, 10–11 October 2022, is back in-person this year, at the prestigious headquarters of the Royal College of Physicians (RCP) in London.

Since its foundation in 1518, the RCP has had five headquarters in London. The current Grade 1 listed building in Regent's Park was designed by architect Sir Denys Lasdun and opened in 1964. Considered a modernist masterpiece, it's one of London's most important post-war buildings.

In 1992, Sir Lasdun was awarded the Royal Institute of British Architects' Trustee Medal in recognition of his work at the RCP, considered to be "the best architecture of its time anywhere in the world".

Sir Lasdun won the competition to design the new headquarters in 1959. He was surprised at being asked to design for such a traditional body, given his modernist philosophy, and he made it clear that he would not create a classical-style building. Ultimately, he responded to the challenge with a skilful integration of centuries-old traditions and his own vision.

As an award-winning and highly versatile venue for conferences, meetings, banquets, training and outdoor events, the building has an atmosphere of space and light, with stylish, modern architecture, and a selection of both old and new styles to suit all tastes.

The venue offers:

- **A central London location** – overlooking Regent's Park, with good access to road, rail and tube.
- **Magnificent conference and banqueting facilities** – tiered auditoriums, exhibition space, event and dining facilities, including the stunning Council Chamber and the 'jewel in the crown' – the Dorchester Library.
- **An award-winning Grade 1 listed modern building** – an atmosphere of space and light with a contrasting mix of old and new facilities.
- **A rare heritage collection** – with over 500 years of history and more than 50,000 antiquarian books.
- **High-quality food and service** – eclectic cuisine, bespoke menus and first-class service.
- **A professional venue for international conferences** – a member of Unique Venues of London, International Association of Conference Centres, and London and Partners, to name a few.
- **A private 'Physic Garden' for events** – filled with rare plants and flowers from all over the world, suitable for barbecues, receptions and al fresco dining.
- **A professional and friendly events team** – dedicated event managers, catering experts and technicians. Full support is provided before, during and following events.

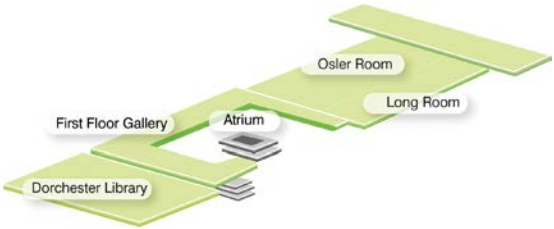
FIRST FLOOR

Dorchester Library

- Breakout sessions (Streams 2 and 6), lunchtime workshops, and evening dinner

Long Room and Osler Room

- Lunch, coffee, video + poster gallery and networking space



GROUND FLOOR

Wolfson Theatre

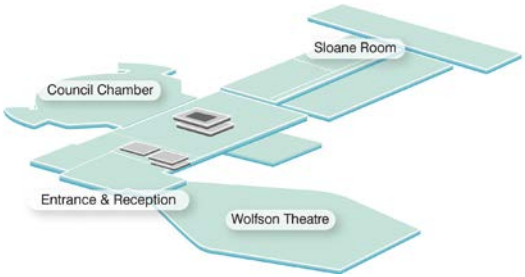
- Main conference plenary sessions and breakout sessions (Streams 1 and 5)

Council Chamber

- Breakout sessions (Streams 3 and 7) and lunchtime workshops

Sloane Room

- Breakout sessions (Streams 4 and 8)

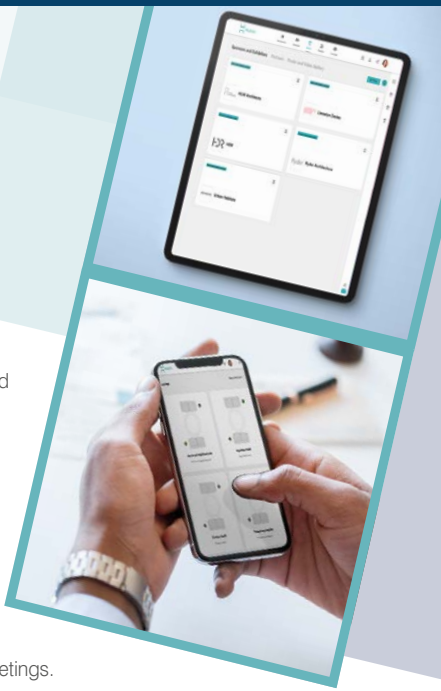


HCD LIVE ON SALUS TV

Use the HCD2022 app to enhance your event experience: prepare your agenda; connect with colleagues and friends – old and new; explore the VIDEO+POSTER gallery; and catch up on recorded talks and sessions. The app will help you discover, connect and engage with attendees at the Congress.

DOWNLOAD THE APP

The event mobile application is available on both the Google and Apple App Stores. To download it, search for **Healthy City Design 2022** or scan the QR code below. Once downloaded, you'll need to sign into the app using the email address you used when registering for the Congress.



FUNCTIONS AND FEATURES

- **QR code** – In-person delegates should access their QR code on the app to check-in to the in-person event. First, log in to the app, then click on your image in the top right of the screen, where your QR code will appear – click on it and check-in at the registration desk. You can also edit your profile and view your virtual briefcase and bookmarked content here.
- **Watch LIVE sessions** – Through the app, you will be able to watch LIVE sessions and catch up with talks and sessions you may have missed under the 'Agenda' tab.
- **Sponsors and partners** – Under the 'Expo' tab, you can visit sponsors' and event partners' stands to learn more about their latest design innovations and/or research work, view their videos, download brochures and, if you're interested, share your contact details, or set up in-person and virtual chats and meetings.
- **Video+Poster Gallery** – Visit the Video+Poster Gallery, also under the 'Expo' tab, to learn more about the showcased design and research projects, watch short video presentations, download the posters, and read the abstracts.
- **People** – Engage with other attendees under the 'People' tab. Filter attendees by specific job roles, sectors, interests and more. From here, you can set up a meeting with other delegates – click on their profile, choose a date and time, and add a personalised message. You can also chat with other attendees by clicking 'CHAT' on their profile.
- **Lounge** – If you're joining the Congress virtually, you still have the chance to connect and network with other delegates in the 'Lounge'. Here, you can pull up a chair at a table to join a video call with other delegates.
- **Schedule** – Create your own personalised schedule based on your interests and meetings, and view this in your own personalised agenda at the top of the app.
- **Discussion** – Join in with fellow attendees in a discussion forum and share your thoughts on the Congress streams and topics beyond the Congress.
- Share your involvement with the Congress on social media by using the hashtag #HCD2022 and tagging us on Twitter with the handle @HCD_2022

PROGRAMME COMMITTEE

The Healthy City Design International Congress 2022 is delivered by SALUS Global Knowledge Exchange in collaboration with the Helen Hamlyn Centre for Design, Royal College of Art, and our esteemed international programme committee, the members of whom are outlined below. From shaping the Congress themes, to evaluating submission abstracts, to chairing sessions, their knowledge, time and effort are a huge part of the success of the Congress, and we thank them for their contributions.

Rachel Cooper OBE, PhD
Professor of design management and policy, Lancaster University, UK

Oliver Jones PhD
Research director, Ryder Architecture, UK

Harry Knibb MRTPI
Development director, Oxford Properties, UK

Janet Sutherland
Director, The Academy of Urbanism, UK

Marcus Grant
Editor-in-chief, Cities and Health, UK

Helen Pineo PhD, MRTPI, FRSA
Associate professor in healthy and sustainable built environments, University College London, UK

Clare Wildfire
Global practice lead for cities, Mott MacDonald, UK

Carolyn Daher MPH
Co-ordinator, Urban Planning, Environment and Health Initiative,
Barcelona Institute for Global Health, Spain

Katie Wood
Director, operations consulting and lead on health and wellbeing, Arup, UK

Rhiannon Corcoran PhD
Professor of psychology and public mental health, University of Liverpool, UK

Blake Jackson AIA, LEED fellow, WELL Faculty, CPHC
Sustainability design leader, Stantec Architecture, USA

Giselle Sebag MPH, LEED AP ND
Executive director, International Society for Urban Health, Spain

Dr Stephane Sadoux PhD
Deputy director, LabEx AE&CC, Grenoble School of
Architecture (ENSAG), Grenoble Alpes University, France

Audrey de Nazelle PhD
Senior lecturer, Centre for Environmental Policy, Imperial College London, UK

Jose Siri PhD, MPH
Epidemiologist, global, urban and planetary health specialist, USA

08.00	**REGISTRATION OPENS**

Session 1: Opening keynotes

Chair: Jeremy Myerson, Royal College of Art; Worktech Academy, UK

08.45	**Welcome and introduction** **Jeremy Myerson,** Royal College of Art; Worktech Academy UK
09.00	**Keynote: Creating healthier urban environments: Turning knowledge into action** **Carlos Dora MD,** President, International Society for Urban Health, Switzerland
09.20	**Keynote: The urban health agenda at WHO** **Nathalie Laure Roebbel PhD,** Unit head, urban health, World Health Organization, Switzerland
09.40	**Keynote: Save the Children: A systems-based approach to taking action on climate, health and equity** **Montira Pongsiri PhD, MpH,** Senior advisor, climate change and health, Save the Children, USA
09.55	**Panel discussion**
10.15-10.45	**VIDEO+POSTER GALLERY, COFFEE AND NETWORKING**

Session 2: Homes for people and planet

Chair: Sunand Prasad, UK Green Building Council; Perkins&Will, UK

10.45	**Building for Quality of Life** **Matthew Morgan,** Quality of Life Foundation, UK **Hani Salih,** Quality of Life Foundation, UK
11.05	**Creating healthier neighbourhoods: Insights from implementing 20-minute neighbourhoods in England** **Gemma Hyde,** Town and Country Planning Association, UK
11.25	**Site Haute – rising to the challenge of sustainable housing** **Coen van den Wijngaart,** archipelago, Belgium **Maarten Lambrechts,** archipelago, Belgium
11.45	**Home of 2030** **Matthew Thomas,** HLM Architects, UK **Izzy Butcher,** HLM Architects, UK
12.05	**Panel discussion**
12.30-14.00	**VIDEO+POSTER GALLERY, LUNCH AND NETWORKING**

Session 3: Active and affordable neighbourhoods for all

Chair: Janet Sutherland, The Academy of Urbanism, UK

14.00 **Back to the future: A case study of Silicon Valley's Ladera Housing Co-operative**
T. F. Tierney, URL: Urban Research Lab, University of Illinois Urbana-Champaign, USA

14.20 **Future of housing – collaborative affordable housing and the value of participation to improve the long-term health and wellbeing of citizens**
Sem Lee, UCL Institute for Environmental Design and Engineering (IEDE), UK

14.40 **The living street**
John Richards, HLM Architects, UK

15.00 **Panel discussion**

15.30-16.00 **VIDEO+POSTER GALLERY, COFFEE AND NETWORKING**

Session 4: Green and blue cities are growing social capital

Chair: Max Farrell, LDN Collective, UK

16.00 **Panel debate: Green and blue cities are growing social capital**

How can we increase the natural capital in our urban environments, and what impact can this have on citizens, vegetation, wildlife, and the ecosystems they support? In this panel, we will hear from the Landscape Institute and the National Park City Foundation, as well as learn the outcomes of #ParkPower, a crowdsourced vision for the future of London's green spaces led by LDN Collective in collaboration with the City of London. We will also hear from Therme Group, whose ambition is to provide water-based wellbeing as social infrastructure in cities around the world.

Panel: James Mark, Therme Group, UK
Juliemma McLoughlin, City of London Corporation, UK
Mark Cridge, National Park City Foundation, UK
Sue Morgan, Landscape Institute, UK

Session 5: Keynote address

Chair: Chris Liddle, HLM Architects, UK

17.00 **Keynote: Turning the world upside down again: Global health in a time of pandemics, climate change and political turmoil**
Lord Nigel Crisp, Author and independent crossbench member, House of Lords, UK

17.30 **Closing remarks**
Jeremy Myerson, Royal College of Art; Worktech Academy, UK

17.45 **Close**

18.30-21.30 **Evening networking dinner, live music and keynote address by Lord Richard Best**
Venue: Dorchester Library – see page 31 for details

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Supported by HDR

Stream 2 begins at 10.45 in the Dorchester Library, after the day's opening plenary session (08.45-10.15).

Session 6: The hospital as an anchor for community health

Chair: Richard Darch, Archus, UK

10.45	**LIFE RESYSTAL – Climate change REsilience framework for health SYStems and hospiTALs** **Dr Kristen MacAskill,** on behalf of Health Care Without Harm; Centre for Sustainable Development, University of Cambridge, UK
11.05	**Hospitals – heal thy neighbours** **Craig Lewis,** CallisonRTKL, USA **Beau Herr,** CallisonRTKL, USA
11.25	**Community engagement in planning a health-oriented development anchored by a regional hospital: A case study in Alaska, USA** **Francesqca E. Jimenez,** HDR, USA **Jeri Brittin,** HDR, USA
11.45	**Kings Hall Health & Wellbeing Park, Belfast** **Gonzalo Vargas del Carpio,** Todd Architects, UK/Ireland
12.05	**Panel discussion**
12.30-14.00	**VIDEO+POSTER GALLERY, LUNCH AND NETWORKING**
12.40-13.50	**Lunchtime workshop: Introducing future generations of the public health spatial planning workforce in translating healthy places evidence into practical reality** **Supported by:** HEALTH & WELLBEING in PLANNING **Chair: Lourdes Madigasekera-Elliott,** East Sussex Council, UK **Panel: Ric Bravery,** City of Wolverhampton Council, UK **Gemma Hyde,** Town and Country Planning Association, UK **Catriona MacRae,** Haringey Council, UK

Session 7: Climate and health in the city

Chair: Audrey de Nazelle, Imperial College London, UK

14.00	**A London for health: Building a population health partnership and call to action** **Dr Angelique Mavrodaris,** Department of Health and Social Care, UK **Katie Hunter,** Greater London Authority, UK
14.20	**Conceptual framework: Towards an integrated health indicator approach for local government** **Albert Ferreira,** City of Cape Town, South Africa
14.40	**Ebbsfleet Garden City: Healthy New Towns legacy** **Kevin McGeough,** Ebbsfleet Development Corporation, UK **Mary Rouse,** Ebbsfleet Development Corporation, UK
15.00	**Panel discussion**
15.30	**VIDEO+POSTER GALLERY, COFFEE AND NETWORKING**

Session 8: Place-based health assets

Chair: Beau Herr, CallisonRTKL, USA

16.00	**Data-driven healthcare: How spatial analysis can drive place-based population health management and urban planning** **Darshana Chauhan,** Coplug, UK **Reem Shamlakh,** Coplug, UK
16.20	**Upstreaming health and wellbeing through outcomes-led design** **Paul Simkins,** Arup, UK
16.40–17.00	**Panel discussion**

Stream 2 will be brought to a close at 17.00, whereupon delegates are invited to return to the Wolfson Theatre for the day's closing plenary session (17.00-17.45).

Stream 3 begins at 10.45 in the Council Chamber, after the day's opening plenary session (08.45-10.15).

Session 9: The case for green-blue infrastructure

Chair: Marcus Grant, Cities & Health, UK

10.45	**Using green infrastructure to mitigate effects of air pollution in school playgrounds** **Carys Alder,** Trees for Cities, UK
11.05	**Restorative gardens in healthcare facilities and their effects on dementia patients' recovery** **Nisrina Muthi Meidiani,** University College London, UK
11.25	**Quantifying the biodiversity gains from participatory urban gardening programmes** **Ellen Bidulka,** Imperial College London, UK **Naomi Paine,** Energy Garden, UK **Agamemnon Otero,** Energy Garden, UK **C. M. (Tilly) Collins,** Imperial College London, UK
11.45	**Avoiding 'green-washing' our developments** **Avgousta Stanitsa,** Atkins, UK **Chris Massey,** Atkins, UK
12.05	**Panel discussion**
12.30-14.00	**VIDEO+POSTER GALLERY, LUNCH AND NETWORKING**

Session 10: Sustainable and equitable communities

Chair: Giselle Sebag, International Society for Urban Health, Spain

14.00 **Circular economies for sustainable health and wellbeing**
Mark Drane, Urban Habitats; WHO Collaborating Centre for Healthy Urban Environments, UWE Bristol, UK
Cheryl Williams, Public Health Wales, UK

14.20 **Understanding climate-related health vulnerability and social inclusion in greening cities**
Ffion Carney, Atkins, UK
Avgousta Stanitsa, Atkins, UK

14.40 **South Essex green and blue infrastructure study: Creating healthy cities for the whole community of life**
Alexandra Steed, Alexandra Steed URBAN, UK

15.00 **Panel discussion**

15.30-16.00 **VIDEO+POSTER GALLERY, COFFEE AND NETWORKING**

Session 11: Guiding principles for planning healthy communities

Chair: Mario Bozzo, SALUS Global Knowledge Exchange, UK

16.00–17.00 **Veraine: Planning a health-creating community**

In this session, a new ecosystem approach to designing and planning healthy and health-creating communities is explored. The session will discuss a set of guiding principles developed to create a community where citizens have trust in the way the community works; for example, that it is a safe, secure and well-functioning community where laws and regulations are legitimate and aligned with values such as diversity, equity and inclusiveness. It will ensure citizens have the resources they need – economic, public and social. And it will create the conditions for people to live meaningful and purposeful lives.

Panel: Mark Drane, Urban Habitats; WHO Collaborating Centre for Healthy Urban Environments, UWE Bristol, UK
Giselle Sebag, International Society for Urban Health (ISUH), Spain
Agamemnon Otero, Energy Garden, UK
Marc Sansom, SALUS Global Knowledge Exchange, UK
Amanda Santo, Dorsay Development Corporation, Canada

Stream 3 will be brought to a close at 17.00, whereupon delegates are invited to return to the Wolfson Theatre for the day's closing plenary session (17.00-17.45).

Stream 4 begins at 10.45 in the Sloane Room, after the day's opening plenary session (08.45-10.15).

Session 12: Transport and the changing urban form

Chair: Clare Wildfire, Mott MacDonald, UK

10.45	**ReCharge LA: From pump to plug** **Francesca Birks,** ERA-co, USA **Chris Green,** ERA-co, UK
11.05	**Air pollution found to be reduced both in and around low-traffic neighbourhoods in Islington, London** **Xiuleng Yang,** Imperial College London, UK **Audrey de Nazelle,** Imperial College London, UK
11.25	**Ontario Line urban developments, supporting transit-orientated communities** **Paul Mcgill,** HDR, UK **Nick Shaw,** HDR, Canada
11.45	**An inclusive approach to rethink linear urban voids** **Cecilia Zecca,** Royal College of Art, UK
12.05	**Panel discussion**
12.30-14.00	**VIDEO+POSTER GALLERY, LUNCH AND NETWORKING**

Session 13: Transport planning for community health

Chair: Gorana Shepherd, Ramboll, UK

14.00	**Framing community health for regional transportation planning** **Jeri Brittin,** HDR, USA
14.20	**Camden Connected: Co-designing accessible and inclusive transport solutions** **Liam Hinshelwood,** We are Snook, UK **Jessica Lawson,** Camden Council, UK **Fozlu Miah,** Camden Council, UK
14.40	**Using complexity-informed methods to explore population health interventions: Exploring car dependency in Belfast** **Dr Holly Weir,** Queen's University Belfast, UK
15.00	**Panel discussion**
15.30-16.00	**VIDEO+POSTER GALLERY, COFFEE AND NETWORKING**

Session 14: Designing active travel

Chair: Jeri Brittin, HDR, USA

16.00	**"But can I walk to work?" Spatial modelling and data analysis to explain how the built environment supports walking** **Ed Parham,** Space Syntax, UK
16.20	**Active travel community co-production pilot** **Dr Rosie Rowe,** Oxfordshire County Council, UK
16.40–17.00	**Panel discussion**

Stream 4 will be brought to a close at 17.00, whereupon delegates are invited to return to the Wolfson Theatre for the day's closing plenary session (17.00-17.45).

08.00	**REGISTRATION OPENS**

Session 15: Opening keynotes

Chair: Sunand Prasad, UK Green Building Council; Perkins&Will, UK

08.45	**Welcome and introduction** **Sunand Prasad,** UK Green Building Council; Perkins&Will, UK
09.00	**Keynote: What creates healthy cities?** **Rachel Cooper OBE, PhD,** Professor of design management and policy, Lancaster University; Main commission member, The Commission on Creating Healthy Cities, UK
09.20	**Keynote: Creative leadership in cities: Born from design** **Rama Gheerawo,** Director, Helen Hamlyn Centre for Design, Royal College of Art, UK
09.40	**Keynote: Design and the Art of Care: The hospital as an anchor for health equity and community renewal** **Ab Rogers,** Founder and creative director, Ab Rogers Design, UK **Dr Ash Ranpura,** Clinical neurologist and neuroscientist, UK
10.00	**Panel discussion**
10.15-10.45	**VIDEO+POSTER GALLERY, COFFEE AND NETWORKING**

Session 16: Inclusive and equitable city-making

Chair: Carolyn Daher, Barcelona Institute for Global Health, Spain

10.45	**The Accelerating City Equity (ACE) Project: A framework for assessing equity in cities** **Giselle Sebag,** International Society for Urban Health (ISUH), Spain **Carolyn Daher,** Barcelona Institute for Global Health, Spain
11.05	**Can an Indigenous landscape-first approach to design heal our cities?** **Michael Moxam,** Stantec, Canada **Ken Brooks,** BDP Quadrangle, Canada **Matthew P J Hickey,** Two Row Architect, Canada
11.25	**Healthy cities for / by people: Building inclusivity into the urban design process from the start to stimulate healthy living** **Laura Thomas,** PosadMaxwan strategy x design, Netherlands
11.45	**Design for inclusion, equity and social justice** **Jesse Klimitz,** Human Space, Canada **Lorene Casiez,** Human Space, Canada
12.05	**Panel discussion**
12.30-14.00	**VIDEO+POSTER GALLERY, LUNCH AND NETWORKING**

Session 17: Health on the high street

Chair: Rhiannon Corcoran, University of Liverpool, UK

14.00 **Living high streets**
Graham Marshall, Prosocial Place; Ministerial Advisory Group (MAG) expert advisor; University of Liverpool – Institute of Population Health Sciences, UK

14.20 **Selfoss Midtown Iceland**
David Martin, M Worldwide, UK

14.40 **Engaged: Re-using empty commercial premises as public toilets, as a model within high street regeneration**
Gail Ramster, Jo-Anne Bichard, Royal College of Art, UK

15.00 **Panel discussion**

15.30-16.00 **VIDEO+POSTER GALLERY, COFFEE AND NETWORKING**

Session 18: The urban health agenda at WHO

Chair: Nathalie Laure Roebbel, World Health Organization, Switzerland

16.00-17.00 This session will present a selection of programmes and activities of the World Health Organization, aiming at offering practical guidance on how to integrate health into urban planning and governance.

Panel: Tara Neville, World Health Organization, Switzerland
Dr Thiago Herick de Sa, World Health Organization, Switzerland
Dr Andreia Santos, World Health Organization, UK

Session 19: Closing plenary and awards

Chair: Jeremy Myerson, Royal College of Art; Worktech Academy, UK

17.00 **Inclusivity and diversity and the climate-smart city**
Our expert panel will explore how to address the planetary health and climate challenge from the perspective of designing cities and communities that are more inclusive, diverse, and healthier for all.

Chair: Audrey de Nazelle PhD, Centre for Environmental Policy, Imperial College London, UK
Panel: Harry Knibb MRTPI, Oxford Properties, UK
Carlos Dora MD, International Society for Urban Health, Switzerland
Carolyn Daher, Barcelona Institute for Global Health, Spain

17.30 **HCD2022 Awards**
Best Poster – for the poster that conveys new research or practice in the most informative, succinct and visually stimulating way.
Best Research Paper – for the paper that addresses the Congress theme of 'Diversity, inclusivity and opportunity for all' in the most original and thorough way.
Most Innovative Idea – for the single concept, model, tool, framework or project that breaks new ground in thinking about the design of healthy cities.
Healthy City Design Champion – for the individual or organisation that has done exceptional work of international significance over an extended period to advance the field of healthy city design.

17.45–18.00 **Closing remarks**
Jeremy Myerson, Royal College of Art; Worktech Academy, UK

Supported by WORKTECH ACADEMY

Stream 6 begins at 10.45 in the Dorchester Library, after the day's opening plenary session (08.45-10.15).

Session 20: Health in the digital city

Chair: Oliver Jones, Ryder Architecture, UK

10.45	**Research evidence translated into practice: Using the Australian Urban Observatory to design healthier and more liveable cities across Australia** **Melanie Davern,** RMIT University, Australia
11.05	**Community-focused technology: The next step in urban placemaking and health interventions** **Christine Hancock,** C3 Collaborating for Health, UK **Nathalie Vauterin,** C3 Collaborating for Health, UK
11.25	**Digital placemaking for health and wellbeing in North East London** **Dr Jo Morrison,** Calvium, UK **Louise Phillips,** NHS North East London, UK
11.45	**Panel discussion**
12.30-14.00	**VIDEO+POSTER GALLERY, LUNCH AND NETWORKING**
12.40-13.50	**Lunchtime workshop: Mechanisms to change behaviour in order to achieve healthier places** **Supported by:** THE ACADEMY OF URBANISM **Chair: Andreas Markides,** Markides Associates, UK **Panel: Kat Hasler,** The Scottish Government, UK **David Rudlin,** URBED, UK **Emma Wilson,** Sovereign Housing Association, UK **Joan Devlin,** Belfast Healthy Cities, UK

Session 21: Inclusive workplaces for people and planet

Chair: Blake Jackson, Stantec, USA

14.00	**The future of equitable and inclusive design in the workplace** **Britni Stone,** NBBJ, UK
14.20	**Surviving and thriving in the workplace** **Aaron Taylor,** Stantec, UK
14.40	**Making light work: Human-centred lighting for people, for planet and for profit** **Shelley James,** Age of Light Innovations, UK
15.00	**Panel discussion**
15.30-16.00	**VIDEO+POSTER GALLERY, COFFEE AND NETWORKING**

Session 22: The future workplace

Chair: Rama Gheerawo, Helen Hamlyn Centre for Design, Royal College of Art, UK

16.00	**The post-Covid "new normal" hybrid workplace: Could this improve our cities, suburbs, commute and mental health while progressing SDGs?** **Gerry Tierney,** Perkins&Will, USA
16.20	**Unworking: The reinvention of the modern office** **Jeremy Myerson,** Worktech Academy, UK
16.40–17.00	**Panel discussion**

Stream 6 will be brought to a close at 17.00, whereupon delegates are invited to return to the Wolfson Theatre for the day's closing plenary session (17.00-18.00).

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Stream 7 begins at 10.45 in the Council Chamber, after the day's opening plenary session (08.45-10.15).

Session 23: The inclusive city

Chair: Harry Knibb, Oxford Properties, UK

10.45	**A vision for the city in 2050 – healthy, attractive, accessible, adaptable and for all** **Shaun Andrews,** Nexus Planning, UK **Stephen Passmore,** Resilience Brokers, UK **Steve Hughes,** WPI Economics, UK
11.05	**Making cities healthier through approaches to inclusive leadership** **Rowena Estwick,** Guy's & St Thomas' Foundation, UK
11.25	**Walking for everyone** **Katie Wood,** Arup, UK **Tanya Braun,** Living Streets, UK
11.45	**Unpacking inclusivity** **Gail Shillingford,** B+H Architects, Canada
12.05	**Panel discussion**
12.30-14.00	**VIDEO+POSTER GALLERY, LUNCH AND NETWORKING**
12.40-13.50	**Lunchtime workshop: Radically refocusing on people and nature will save our cities** **Supported by:** Ryder **Chair: Dr Oliver Jones,** Ryder Architecture, UK **Panel: Rachel Cooper,** Lancaster University; The Commission on Creating Healthy Cities, UK **Marcus Grant,** Cities & Health, UK **Gemma Hyde,** Town and Country Planning Association, UK **Luke Engleback,** Studio Engleback, UK **Sue Morgan,** Landscape Institute, UK

Session 24: The accessible city

Chair: Chris McGinley, Royal College of Art, UK

14.00	**Inclusive cities are resilient cities: Evidencing the role of inclusive design in urban futures** **Mikaela Patrick,** Global Disability Innovation Hub, University College London, UK **Annamae Muldowney,** Global Disability Innovation Hub, University College London, UK **Iain McKinnon,** Global Disability Innovation Hub, University College London, UK
14.20	**Respond: A novel model for delivering equitable healthcare to asylum-seekers in the UK** **Olivia Farrant,** University College Hospital, UK
14.40	**Access Navigators: Taking the mystery out of accessibility** **Anne Weidman,** Access Navigators / JSA Design, USA **Todd Hanson,** Access Navigators / JSA Design, USA
15.00	**Panel discussion**
15.30-16.00	**VIDEO+POSTER GALLERY, COFFEE AND NETWORKING**

Session 25: Equitable design at all scales

Chair: Katie Wood, Arup, UK

16.00	**Scale jumping: Aligning building-level and community-level strategies for health equity and climate change resilience** **Angela Loder,** International WELL Building Institute, USA **Lydia Szewczyk,** International WELL Building Institute, UK **Tina Lindh,** Castellum, Sweden **Jeff Risom,** Gehl, Denmark
16.20	**A neighbourhood in a building: Japanese perspectives to reduce social isolation in high density** **Alice Covatta,** Universite de Montreal, Canada
16.40–17.00	**Panel discussion**

Stream 7 will be brought to a close at 17.00, whereupon delegates are invited to return to the Wolfson Theatre for the day's closing plenary session (17.00-18.00).

Stream 8 begins at 10.45 in the Sloane Room, after the day's opening plenary session (08.45-10.15).

Session 26: Designing cities for older people

Chair: Jeremy Porteus, Housing LIN, UK

10.45	**Healthy ageing and diminishing health inequalities through housing co-operatives for seniors** **Dr Jeannette Nijkamp,** Hanze University of Applied Sciences Groningen, Netherlands
11.05	**Design for understanding – on the example of descriptions of training exercises for the elderly** **Christian Lunger,** Motasdesign, Austria
11.25	**Older pedestrians' physiological reactions are indicative of stressful and non-stressful urban built environment conditions** **Dr Alex Torku,** Kingston University London, UK
11.45	**Factors associated with building resiliency in older people: A cross-sectional mixed-method study of Malaysians** **Dr Ooi Pei Boon,** Sunway University, Malaysia
12.05	**Panel discussion**
12.30-14.00	**VIDEO+POSTER GALLERY, LUNCH AND NETWORKING**

Session 27: Child-friendly cities

Chair: Julia Thrift, Town and Country Planning Association, UK

14.00	**Child-friendly neighbourhoods** **Mark Collins,** HLM Architects, UK **Izzy Butcher,** HLM Architects, UK
14.20	**Co-designing a greener, fairer, and stronger community for children's wellbeing** **Matluba Khan,** Cardiff University, UK **Tom Smith,** Cardiff University, UK
14.40	**The egality of child-led design** **Beth Cooper,** Timberplay, UK
15.00	**Panel discussion**
15.30-16.00	**VIDEO+POSTER GALLERY, COFFEE AND NETWORKING**

Session 28: Designing for young people

Chair: Mel Jacobson Cox, HLM Architects, UK

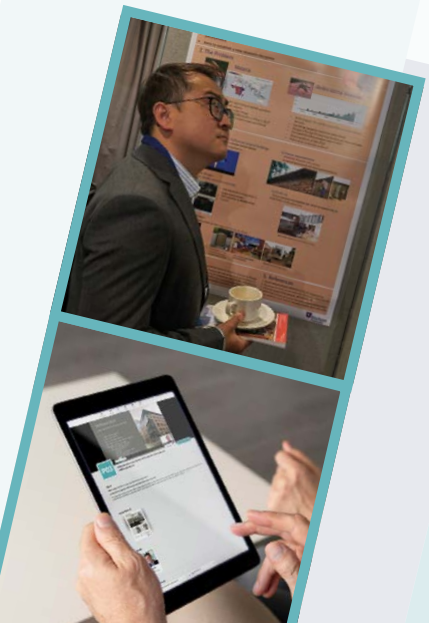
16.00	**Greenspace & Us: Using participatory and creative approaches to understand access to green space for teenage girls** **Lizzie Moore,** Oxfordshire County Council, UK **Emily Jiggens,** Oxfordshire County Council, UK **Nafeesa Hussain,** Oxfordshire Youth Enterprise (Name It Youth Project), UK
16.20	**Embracing diversity and inclusion in an urban young-adult mental health hub** **Deanna Brown,** Stantec, Canada **Robyn Whitwham,** Stantec, Canada
16.40–17.00	**Panel discussion**

Stream 8 will be brought to a close at 17.00, whereupon delegates are invited to return to the Wolfson Theatre for the day's closing plenary session (17.00-18.00).

Hosted in the Osler and Long Rooms, the Video + Poster Gallery offers a chance to learn about many inspiring research and design projects, enriching the oral sessions. To view the digital posters and their abstracts, visit the Video + Poster Gallery via the event platform or app.

P01 **Taming the concrete jungle – finding new meaning in grey space**
John Allison, Motion to Mind, UK
events.hubilo.com/HCD2022/booth/140009

P02 **CONF.I.A.N.Ç.A. | a moment of stillness, self-reflection and connection in the ever-moving reality of modern societies**
Vicky Simitopoulou, DUTh, Department of Architectural Engineering, IAAC, Spain
events.hubilo.com/HCD2022/booth/140010



P03 **Leveraging Green Globes certification for sustainable and healthy workplaces**
Blake Jackson, Stantec, USA
events.hubilo.com/HCD2022/booth/140011

P04 **Circle of Health – expanding Berlin's medical care**
Ann-Kathrin Salich, Nickl & Partner, Germany
events.hubilo.com/HCD2022/booth/140012

P05 **Eat well to be well**
Bernardine Farrell, Foodturisitic, UK
events.hubilo.com/HCD2022/booth/140014

P06 **Theoretical and practical applications of the theory of life circle in China**
Yilin Song, Xuan Liu, Tianyang Gao, Tianjin University, China
events.hubilo.com/HCD2022/booth/140015

P07 **Understanding factors that influence green space access**
Ngoc Thuy Nguyen, Tilly Collins, Alexandra Collins, Caitlin Hinson, Imperial College London, UK
events.hubilo.com/HCD2022/booth/140016

P08 **Safety and the vulnerable road user**
Orla Fahey, Royal College of Art, UK
events.hubilo.com/HCD2022/booth/140017

P09 **Ecourbanism: A whole-systems approach to city building and repair**
Luke Engleback, Studio Engleback, UK
events.hubilo.com/HCD2022/booth/140018

P10 **Learning from Mark Rylance**
Felicia Cleper-Borkovi, Arup; Felicia Cleper Borkovi, USA
events.hubilo.com/HCD2022/booth/140019

P11 Designing for changing workforce needs
Stuart Turk, Silver Thomas Hanley, Australia
events.hubilo.com/HCD2022/booth/140020

P12 Restorative gardens in healthcare facilities and their effects on dementia patients' recovery
Nisrina Muthi Meidiani, University College London, UK
events.hubilo.com/HCD2022/booth/140021

P13 The living street
Noor Itrajky, John Richards, HLM Architects, UK
events.hubilo.com/HCD2022/booth/140022

P14 Between abandonment and rebirth: Categories of urban space
Cecilia Zecca, Royal College of Art, UK
Chris McGinley, Royal College of Art, UK
events.hubilo.com/HCD2022/booth/140023

P15 Healthy cities status analysis by a survey for healthy city managers in Korea
Bicna Lee, Gahurn Lee, Lee Su Jin, Yumi Oh, Korea Health Promotion Institute, Korea
events.hubilo.com/HCD2022/booth/140024

P16 Future living: Combating loneliness with wellness-driven architecture
Alex Wessling, HDR, Australia
events.hubilo.com/HCD2022/booth/140025

P17 Future health challenges for cities
Gerard Briscoe, Gail Ramster, Royal College of Art, UK
events.hubilo.com/HCD2022/booth/140026

P18 Nature and Emotion: Reorienting towards nature with new narratives of life-centred design
Natasha Reid, Matter . Space . Soul, UK
events.hubilo.com/HCD2022/booth/140027

P19 Walkability and mental health: An analysis of Ankara, Turkey
Segah Sak, Gozdenur Teke, I.D. Bilkent University, Turkey
events.hubilo.com/HCD2022/booth/140028

P20 Designing for women in crisis: An understanding of key touch-points for women utilising crisis services in Scotland
Kirsty Watt, HerCollective / Groves Raines Architects Studio, UK
Amelia Powell, HerCollective / Babergh and Mid Suffolk District Councils, UK
events.hubilo.com/HCD2022/booth/140029

P21 **Expanding access to urban gardening – the contributions of community gardens and adoption/sharing schemes**
Yi Zhang, Tilly Collins, Imperial College London, UK
Jazz Browne, Nubian Life Resource Centre, UK
Jamie Hilton, Fulham Good Neighbours, UK
events.hubilo.com/HCD2022/booth/140030

P22 **Wayfinding in support of active travel**
Rosie Rowe, Oxfordshire County Council, UK
Mike Clay, Cherwell District Council, UK
events.hubilo.com/HCD2022/booth/140031

P23 **Waiting Well project**
Dr Rosie Rowe, Oxfordshire County Council, UK
Louise Cornwall, Hightown Surgery, UK
Ellen Fallows, Brackley Medical Centre, UK
events.hubilo.com/HCD2022/booth/140032

P24 **Mapping food deserts and Covid vulnerability**
Rupert Allan, NHS Wales; Cwm Taf Morgannwg University Health Board, UK
events.hubilo.com/HCD2022/booth/140033

P25 **Happy Home: Learnings from the Row House typology**
Gorana Shepherd, Adam Selvey, Ramboll, UK
Ofri Earon, Henning Larsen, Denmark
Meik Wiking, The Happiness Research Institute, Denmark
events.hubilo.com/HCD2022/booth/140036

EVENING NETWORKING DINNER, LIVE MUSIC AND KEYNOTE ADDRESS

Monday 11 October, Dorchester Library

18.30-21.30

Keynote speaker:

Lord Richard Best
Member, House of Lords, UK

What creates healthy cities? The work of the Commission on Creating Healthy Cities and next steps

Taking place on the evening of day one of the Congress, in the Dorchester Library, the evening networking dinner will be an opportunity for delegates to connect informally with members of the programme committee, as well as enjoy a sumptuous, three-course meal and a live jazz performance from the Royal Academy of Music.

During the evening, Lord Richard Best, a British social housing leader and member of the House of Lords, will deliver a keynote address on work of the Commission on Creating Healthy Cities (CCHC) and the next steps for its agenda. Set up to investigate the links between urban matters and health and wellbeing, the CCHC issued a report in July, entitled 'What creates healthy cities?'.

The CCHC used evidence from global events to inform urbanisation and how existing urban infrastructure and communities can adapt to become more resilient in response to future outbreaks of infectious disease. While the Commission focused its recommendations on the UK context, it also assessed global evidence, recognising the backdrop of the climate crisis and taking account of factors such as poverty and diversity.

Attendees at the dinner will also hear from Agamemnon Otero, founder and chief executive of the Congress' social impact partner, Energy Garden, which supports communities to install and maintain gardens on railway stations across the London Overground network.

Details of Energy Garden's new solar share offer, which aims to generate funds from investors to reach a target of 1 Megawatt peak generating capacity (MWp) of rooftop solar energy by the end of this year, can be found on page 113 of this programme.

The organisers wish to thank HLM Architects and Llewelyn Davies for their support of the evening networking dinner.

Rodney Cook Sr. Park
Atlanta, Georgia, USA

140 William
Pertha, Western Australia, Australia

Shaping Communities by Design

At HDR, we believe in creating connections that foster inclusion and participation. That's why we elevate context and culture when designing inspired places in communities big and small.

HDR

hdrinc.com

Delbrook Community Centre
North Vancouver, British Columbia, Canada

Focal Point Community Campus
Chicago, Illinois, USA

Keynote: Creating healthier urban environments: Turning knowledge into action

Carlos Dora MD
(Switzerland)
President,
International Society
for Urban Health

Dr Carlos Dora has a distinguished career in global public health and environment. Until recently, he co-ordinated the World Health Organization's global work on health impacts of sector policies (energy, transport, housing, extractive industry) and on articulating a global response to air pollution.

He led the development of a new Urban Health Initiative to strengthen health systems capacity in cities to support health, climate and air quality benefits from urban policies, which is under pilot implementation in Africa and Asia. He also led the development of a framework for how public health can contribute to Habitat III objectives and the New Urban Agenda.

He previously led knowledge synthesis about the health co-benefits of climate change mitigation policies, in a 'Health in a Green Economy' series and contributed to the development of health indicators for post-2015 Sustainable Development Goals. He has worked to include health into strategic environment assessments and into Development Banks Safeguards. He has contributed to the establishment of an inter-ministerial process for transport health and environment in Europe (THE PEP), led a health task force in the Climate and Clean Air Coalition, and has previously engaged in health risk assessments in the ex-Soviet Union.

He has worked in academia at the London School of Hygiene and Tropical Medicine and as a visiting professor at Columbia University School of Public Health. He worked at the WHO Regional Office for Europe, with the World Bank, and in the organisation and innovation of primary care systems in Brazil, where he also practised clinical medicine.

He has served in many science/policy committees at national and international levels and is engaged in many global partnerships. He currently advises governments, civil society and philanthropy about health as it relates to non-heath sector policies and the urban environment.

His research and publications include health impact assessment as well as perceptions and communication of science and health risks by scientists, media and politicians.

He is a medical doctor and an epidemiologist with an MSc and a PhD from the London School of Hygiene and Tropical Medicine.

Nathalie Laure Roebbel
PhD (Switzerland)
Unit head, urban health,
World Health Organization

Keynote: The urban health agenda at WHO

Urban and territorial planning is a critical enabler for health and wellbeing in cities and regions, and our health is influenced by many factors beyond the health sector.

Planning has a central role in the prevention of diseases in the 21st century, as urban policies define the air we breathe, the quality of spaces we use, the water we drink, the way we move, our access to food, and the treatment of diseases through adequate access to healthcare for all. Planning decisions can create or exacerbate major health risks for populations, or they can foster healthier environments, lifestyles, and create healthy and resilient cities and societies.

Assets-based approaches need to bring actors and decision-makers together around a positive baseline, recognising health as an enabler and an outcome in the process. Rather than putting problems at the centre, these approaches place the emphasis on the community's and locality's assets, alongside unmet needs. The first step is to identify existing assets that have or may have a health-determining role. The second step is to review if, and how, these assets can be put to use or better use.

In this keynote, Nathalie will explore the World Health Organization's urban health agenda and programme of activities, aiming to offer practical guidance on how to integrate health into urban planning and governance.

Keynote: Save the Children: A systems-based approach to taking action on climate, health and equity

Montira Pongsiri PhD, MpH (USA)
Senior advisor,
climate change and health,
Save the Children

Multiple sectors – health and non-health – can determine the health and wellbeing of people and the condition of the socio-ecological environment on which it depends.

At the climate and human health nexus, a systems-based understanding of climate change and health should inform all stages of the policy process from problem conceptualisation to design, implementation, and evaluation. Such an understanding should guide countries, their partners, and donors to incorporate health in strategic climate actions based on how health is affected by, and plays a role in, the dynamic interactions across economic, environmental, and societal domains.

A systems-based approach to sustainable development has been widely promoted but operationalising it for project level and policy development and implementation has not been well articulated. Such an approach is especially valuable for informing how to address climate change and health together through policy actions that can achieve multiple, mutually reinforcing goals.

Montira will describe some strategic steps – such as the complementary use of health impact assessment, quantification of health impacts, and linking climate and health actions to national and global policy processes – to apply a systems-based approach to taking action on climate, health and equity.

Matthew Morgan (UK)
Director,
Quality of Life Foundation

Hani Salih (UK)
Researcher,
Quality of Life Foundation

Building for Quality of Life

The Quality of Life Foundation holds a vision of a housing system that improves people's quality of life over the long term. We aim to achieve this by making health and wellbeing central to the way we create and care for our homes and communities. We gather robust evidence, grounded in research and people's lived experience, to weave greater accountability into the housing system, and to encourage long-term models of development.

We developed the Quality of Life Framework to address the changes that can be made across the housing and development industry to ensure that homes and neighbourhoods actively improve quality of life for all. It can be applied by communities, developers, designers and local authorities to create places that are healthier for people and the planet.

The framework has six themes and associated sub-themes:

- *Control* – this refers to the extent to which people feel that they have control over their situation; its sub-themes are influence (over local decision-making processes), safety, and affordability;
- *Health* – this explores the ways in which our homes and local areas affect our health and wellbeing; its sub-themes are housing, air quality, and recreation;
- *Nature* – this addresses our ability to connect with nature, which is central to our wellbeing; its sub-themes are green space, biodiversity, and green / energy-efficient homes;
- *Wonder* – this is about the sense of wonder, delight and fun that we experience in our homes and local areas; its sub-themes are culture, distinctiveness, and recreation;
- *Movement* – this looks at how we get around; its sub-themes are walking and cycling, public transport, and calls; and
- *Community* – this explores our sense of belonging and community in our local area; its sub-themes are diversity, belonging, and neighbourhood.

This talk will present our framework and discuss its application, including: quality-of-life mapping, to engage residents and communities in decisions affecting their local area; and a resident review post-occupancy evaluation to evaluate new housing developments from a quality-of-life perspective with Urban & Civic, Countryside and Grosvenor.

Creating healthier neighbourhoods: Insights from implementing 20-minute neighbourhoods in England

Gemma Hyde (UK)
Project and policy officer, Town and Country Planning Association

Societies around the world are facing urgent, complex and interconnected problems, many of which are driving high levels of deprivation, social inequalities and poor health outcomes across the life course. These inequalities in life experience can have deeply detrimental effects on individuals, families, communities and society.

In the face of this challenge, disparate places are seeking to create places that better foster conditions for human and planetary thriving, and there is growing evidence that people are healthier when they can live locally in complete, compact and connected communities.

These types of communities can be described in different ways, including 20-minute neighbourhoods and 15-minute cities. But the essence of the idea is the same – allow people to live in walking-first neighbourhoods, where they can access each other and the facilities and services that they need for everyday living, helping those in most need first.

In 2021, the Town and Country Planning Association (TCPA) launched a practical guide to 20-minute neighbourhoods for council planners in England and we have spent the last 18 months learning from and supporting places in England to implement healthier communities. The emergent learning from this work is providing insight into the barriers and opportunities that a 20-minute framework offers to healthier placemaking.

Emerging themes include: How can planners and local government confront complexity and take a systemic approach to place?; What are the systemic barriers to creating healthier places – including in England, housing affordability and policy – and what can be done to influence them?; How do we define a neighbourhood – is it a political construct?; Should it be experiential, focused on people's emotional connections to place, or should it be based on physical assets in the built environment?; What knowledge, skills and data are needed and by whom to create healthier places?; And how can 20-minute neighbourhoods engage with diversity to remove barriers to healthier lifestyles for all?

This paper will present the TCPA's implementation work and learning so far, before highlighting areas for further research, adding to the growing knowledge and evidence base for creating healthier, more equal places for all, through a 20-minute neighbourhood framework.

Coen van den Wijngaart
(Belgium)
Architect,
Archipelago

Maarten Lambrechts
(Belgium)
Architect,
Archipelago

Site Haute – rising to the challenge of sustainable housing

A circular approach to housing implies a regenerative model, aiming to eliminate waste, pollution and carbon emissions, and to facilitate the continual use of resources.

Practical application: Site Haute: a feasibility study by archipelago for the large-scale renovation of the Site Haute housing complex in the centre of Brussels, involves collaboration with OFFICEU, Tractebel and OSMOS, and was commissioned by social housing company Logement Bruxellois. The feasibility study looks at the existing buildings on site, as well as public space, to determine a circular approach for future use. Different scenarios, ranging from renovation to extensions and rebuilding, will envision potential transformations for green open spaces, an inclusive housing programme, and smart energy use for the site.

Outcomes: A circular assessment tool is applied to determine which buildings and open spaces can be preserved, with the aim of minimising the environmental impact. We define 16 principles of capacity for spatial adaptability, derived from a study of international sustainability tools and guidelines. These 16 principles are divided into four categories: capacity of the building dimensions; capacity of the core; capacity of disassembly; and physical capacity.

A mid-level capacity for adaptability requires an evidence-based design methodology through which we can validate interventions to improve the sustainability of the project and the wellbeing of users. We therefore measure the effect of the physical conditions, such as air quality, the quality of available daylight, acoustic comfort, the interior climate, and the microclimate of the site. Together with OSMOS, we also process the results from a participative co-creation process that allows us to understand and adapt our design to the diverse needs of the community.

Implications: We need to approach housing with a long-term vision in which both the construction and the use of the building are approached as part of a circular process. Careful assessment of the existing situation and the capacity for adaptability is essential to determine how we intervene. However, only with a strong focus on the wellbeing of users, originating from a co-creation process, will an adaptable structure result in a truly sustainable housing project that is maintained through the care of a community.

Home of 2030

Matthew Thomas (UK)
Associate,
HLM Architects

Izzy Butcher (UK)
Senior landscape architect,
HLM Architects

Co-author:

Philip Watson (UK)
Director – head of design,
HLM Architects

Working with the Homes England Development Framework, HLM Architects designed the 'Forever Home' concept – putting the climate emergency first. We were one of six finalists in the concept design for the RIBA Home of 2030 Design competition, based on the following themes: age-friendly and inclusive living; low environmental impact; healthy living; and deliverable and scalable.

The 'Forever Home' concept exploits a universal manufacturing platform enabling flexible, green, affordable and sustainable 'forever' homes, by supporting positive changes in the way we live, and it's delivered using a circular economy approach.

Interchangeability of components allows homes to be reconfigured to suit individuals or families as their lives evolve; growing, adapting, or even shrinking to meet their needs. This allows people to put down roots for a lifetime. Physically and emotionally investing in their local communities, rather than being forced to move to accommodate children or meet changing needs as they age, the concept supports stable healthy communities.

Developed with technical expertise from the University of Sheffield Advanced Manufacturing Research Centre, the concept has a simple ambition: to solve the issues of capacity and compatibility within the offsite manufacturing sector. By developing a design standard that enables any offsite manufactured system to deliver the same high-quality, sustainable design, this approach helps safeguard the supply change for selection across a wider pool of contractors and suppliers.

Our approach prioritises places for people and nature. In the current climate, with radical changes to working, living and social environments, designing places that promote a connection to nature, both indoors and outdoors, is essential. A hierarchy of space ensures a wide range of user experiences, from large-scale woodland and communal spaces, to private gardens and mini kitchen gardens. Green and blue infrastructure, and wild landscaping are all integral parts of the design. Inclusive site access with wide paths and a strong network of dedicated cycle lanes will encourage healthy living habits and sustainable forms of transport.

Our ambition is to use the power of design and technology to create homes that are flexible, sustainable and affordable, as well as financially viable for developers.

T.F. Tierney
(USA)
UIUC professor emeritus;
UC Berkeley visiting researcher (2022-2023),
URL: Urban Research Lab, University of Illinois Urbana Champaign

Back to the future: A case study of Silicon Valley's Ladera Housing Cooperative

Affordable housing is a scarce commodity in Silicon Valley. Prior to the global pandemic, housing was already in short supply. But during the pandemic, prices escalated dramatically, putting home ownership out of reach for many low- and middle-income families. Perpetuating existing for-profit models has done little to alleviate the problem. New typologies for neighbourhood development are needed. Might the past offer practical solutions for more affordable, socially equitable, and sustainable communities?

The case study of Ladera, a postwar interracial housing cooperative in Portola, California, provides a compelling framework to examine socially inclusive and environmentally responsive design. The Cooperative was founded in 1944 against the backdrop of California's wartime housing shortage. Galvanised by Stanford chemistry professor and Cooperative president Murray Luck's research on global food justice, the Coop selected a prestigious team of architects, Joseph Allen Stein and John Funk, who were also members of architectural research group Telesis, which included the progressive housing advocate, Catherine Bauer Wurster. The design team also featured the founder of modern landscape architecture, Garret Eckbo. Their designs cost only $6000 per family ($88,000 today).

Many of Telesis' innovative designs and sustainable strategies were realised in Ladera: integral materials, topographic siting allowing for natural ventilation, and modular customised construction to minimise costs. The 400-home community encouraged healthy outdoor living with hiking trails, an interlinked secondary system of pedestrian paths, and a common recreation centre with sports fields and swimming pool – all located a 20-minute bicycle ride from Stanford University and the town of Palo Alto.

The history of the Cooperative is presented through previously unseen archival materials, including architectural drawings and renderings, oral histories, interviews, and direct assessment of the built community. Considering Silicon Valley's current social and environmental justice issues, Ladera Cooperative offers an exemplary model of affordable, inclusive, and sustainable community design. Given housing crises in California and many other large urban centres in the US and UK, where low-income families simply cannot enter the market, this research has even more significance today as we try and address core aspects of social and economic inequity across the globe.

Future of housing – collaborative affordable housing and the value of participation to improve the long-term health and wellbeing of citizens

Sem Lee (UK)
Urban researcher and designer,
UCL Institute for Environmental Design and Engineering (IEDE)

Co-authors:

Helen Pineo (UK)
Lecturer in sustainable and healthy built environments,
UCL Institute for Environmental Design and Engineering (IEDE)

Gemma Moore (UK)
Senior research fellow (evaluation) and lecturer (teaching),
UCL Institute for Environmental Design and Engineering (IEDE)

Is there a model for community engagement that can be used in community-led housing projects to galvanise diverse local communities and help deliver collaborative affordable housing?

Community-led housing models have been gaining traction at both grassroots citizen and government levels over the years and are being proposed as an alternative to mainstream, profit-driven, housing models. Current models in the UK have been criticised as delivering homes that are not built for purpose, are often not affordable, and ultimately do not address the demand for quality homes in the UK. Community-led housing models aim to address this problem by delivering homes built by and for existing communities.

Research on community-led housing, thus far, has focused on co-housing and intentional communities (voluntary residential groups of people, designed from the start to have a high degree of social cohesion). Although fine examples of alternative living, these models are often delivered for new or existing communities that centre around a collective purpose. They don't address the need for affordable, healthy housing for existing geographical communities, especially those in urban areas where levels of diversity are high and there are sub-communities with differing needs that must all be considered. To address this gap, this study undertakes action research to understand the opportunities and challenges of engaging communities to deliver on community-led housing for existing geographical communities. The research focuses on a local community land trust in Waltham Forest, East London (Forest Community Land Trust) and the community in Waltham Forest.

This research investigates how we can engage and use civil society participation to galvanise local resources and deliver community-led housing. A model for community engagement will be devised based on existing literature and new primary research with community-led housing projects in England. This model will then be tested by the community land trust to engage various local communities. It's hoped that this will help identify the critical elements required to successfully engage and empower local citizens to feel invested in the delivery of affordable, healthy housing in their local area.

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The living street

Healthy place-shaping involves maximising opportunities for active travel and creating a safe environment. Connectivity, in active travel requires the development and promotion of safe, clear, convenient and permeable routes and networks. HLM Architects has developed a concept in response to creating successful neighbourhoods called the 'living street'. Applied on masterplanning projects, the 'street' will form a pedestrian and leisure cycle-friendly route, which feeds into key activation areas, e.g. schools, local centres, green spaces and employment zones.

The 'living street' has the potential to radically rethink and pioneer an environmentally sensitive future and address the climate emergency. It promotes an ecosystem-led approach where people and biodiversity have equal importance, creating a balanced, thriving and resilient streetscape. The concept has been devised on three key sizes of living street: 20m, 12m, and 8m. Sizes are adaptable depending on the brief.

Key intervention strategies include: pedestrian-friendly streets; promoting walking /cycling; creating safe routes in an integrated transport network; and keeping pedestrian footpaths either side of residential properties and a 2m-wide leisure cycle route (in accordance with the Department of Transport's policy paper, 'Gear Change'). There will also be several layers of learning, including: viewing the living street as a community resource to provide areas for learning and play; and encouraging social recreation in green spaces – exercise and leisure.

Benefits from green and blue infrastructure include: green corridors that provide a multi-functional asset for improvement in ecological connectivity; reduction in surface temperatures and provision of trees for shade, utilising native species; and sustainable urban drainage systems integrated into the landscape, with all water captured and attenuated on site.

Active 'village green' and 'town square' social spaces will sit at the heart of masterplan designs. There is also the ability for the community to grow edible herbs and pick fruit from the community orchard, helping form an important circular micro-economy.

And benefits will also arise from sustainable transport. Here, sustainable energy and transport strategies will be embedded within the design. Cycle shelters, networks and cycle-sharing schemes will also be part of the vision, as well as electric car charging points within the streetscape.

Panel debate: Green and blue cities are growing social capital

The solutions to the biggest challenges facing cities around the world, as we deal with the consequences of climate change and the biodiversity crisis, can be found within the natural environment.

Our green and blue spaces provide critical resources, address overheating, and improve air quality. We are also acutely aware of the link between urban parks and our physical and mental health, having lived through a global pandemic. What is less well understood is the link between well-planned and evenly distributed natural spaces, social value, and community cohesion.

Green infrastructure can help level up communities within our cities. So how can we increase the natural capital within our urban environments, and what impact can this have on citizens, as well as vegetation, wildlife and the ecosystems they support? Three years ago, London became the world's first 'national park city'. Since then, Adelaide has also gained this status, and many more are planned.

In this panel discussion, we will hear from the Landscape Institute and the National Park City Foundation, as well as learn the outcomes of #ParkPower, a crowdsourced vision for the future of London's green spaces led by LDN Collective in collaboration with the City of London. We will also hear from Therme Group, whose ambition is to provide water-based wellbeing as social infrastructure within cities, including London, Manchester, Glasgow, Toronto, Singapore and New York. The economic benefits of green and blue spaces are increasingly clearer, with ESG investment targeting this type of critical infrastructure.

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LDN Collective

James Mark (UK)
Chief operating officer,
Therme Group

Juliemma McLoughlin (UK)
Executive director, environment,
City of London Corporation

Mark Cridge (UK)
Executive director,
National Park City Foundation

Sue Morgan (UK)
Chief executive,
Landscape Institute

Lord Nigel Crisp
(UK)
Author and independent crossbench member, House of Lords

Turning the world upside down again: Global health in a time of pandemics, climate change and political turmoil

Lord Nigel Crisp, co-chair of the All-Party Parliamentary Group on Global Health and a former chief executive of the NHS, will use this keynote to present insights from his updated book, *Turning the World Upside Down Again – Global health in a time of pandemics, climate change and political turmoil*.

Published by CRC Press, part of the Taylor & Francis Group, the book shows how affluent western countries can learn about health from low- and middle-income countries and from poorer communities in their own countries. At a time of great uncertainty, characterised by pandemics, climate change and political turmoil, it's vital that traditional western ways of thinking about health change radically. Combining learning from all countries and all communities will help bring about these changes, asserts Lord Crisp.

Following on from his earlier work, *Turning the World Upside Down*, this new edition is extensively rewritten, draws on numerous examples, and reflects on what has already been learned from the Covid-19 pandemic and the onset of climate change. It argues that we need to create a new ecological approach to health based on the intimate links between the health of individuals, the health of their communities, the health of wider society, and the health of the planet.

Health workers, in addition to their clinical or other roles, will need to become agents of change and curators of knowledge, the book suggests. They will need to facilitate, support, encourage and enable families, communities, businesses, public bodies, and all parts of society to act as health creators, prevent disease, and build a healthy and health-creating society.

The book acknowledges that global tensions have challenged the idea of global solidarity, which was set out in the Sustainable Development Goals and ratified by countries around the world just a few years ago. Now, it argues, the world needs to be rebuilt differently, based on the actions of individuals and organisations who, as scientists, health professionals, development workers or concerned citizens, are reaching out to each, creating new technologies, new ways of working, and new understanding.

LIFE RESYSTAL – Climate change REsilience framework for health SYStems and hospiTALs

Dr Kristen MacAskill
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On behalf of Health Care Without Harm;
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Climate change strikes at the very core of the healthcare sector's mission to keep people healthy. Individual hospitals and entire healthcare systems are affected operationally, financially, and structurally by the rising frequency of extreme weather events.

Our health is intrinsically linked to the environment we live in, and climate change therefore directly impacts the health of patients and communities. As climate change worsens, an increasing number of people will face the health consequences of extreme weather events, so they must be at the heart of our climate change adaptation policies.

This project will support improved climate risk and vulnerability assessment of health systems, as well as an improved understanding of interdependencies between infrastructures, e.g. transport, energy networks, telecommunications, and clinical services, to ensure a more secure and resilient health service provision. The project will also support investment decisions that consider and encourage climate change adaptation.

Through improved adaptation and resilience, this project aims for the following impacts:

- 31,000 patients protected from climate-related hazards, including extreme weather events, every year;
- 46 hospital buildings protected from climate-related hazards, including extreme weather events, every year;
- 105 healthcare personnel trained in the use of climate resilience and adaptation tools; and
- 2.7 hectares of blue-green infrastructures created.

LIFE RESYSTAL is a ground-breaking project that will ensure that health infrastructures across Europe are prepared for the impacts of climate change. We are working with seven pilot hospitals and two health systems to ensure we can develop hands-on and universally applicable tools and resources. And we are engaging stakeholders across the European healthcare sector to make them more robust.

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Hospitals – heal thy neighbours

Much has been written about the need for healthy communities and the impact of healthy programme interventions in neighbourhoods, particularly those that have been historically underserved. The ability to physically access healthcare facilities has been a principal determinant in overall public health. In addition to physical proximity, there is also a need to remove barriers that are culturally based.

Across the US and Europe, the presence of larger-scale campuses and urban facilities have often led to a structural decline in their surrounding neighbourhoods. Disinvestment has often come about due to unintentional destabilising elements and negative externalities, including always-on facilities with their lighting and noise, the environmental/aesthetic impacts of negative spaces for parking and physical plant, and the hope/expectation by property owners that the facility will eventually buy out adjacent properties.

Through a series of planning and design exercises, performed over the past decade with a variety of clients – municipalities, neighbourhoods, as well as healthcare systems – we've explored how the physical impact of a healthcare facility can beneficially impact its surrounding community. In the development of these plans, we've identified small-scale physical changes (e.g. sidewalk improvements, neighbourhood parks, trail system construction) and larger structural interventions (e.g. affordable housing, education, mobility/transit access).

The results of these interventions have varied, but in general, a conscious effort to invest in the immediately surrounding area has been beneficial, not simply for health outcomes of the residents but also for recruitment and public perception of the facility itself.

Each of these planning efforts began with a masterplan for the healthcare facility, to establish its ultimate boundary and provide a sense of predictability for adjacent residents. The net result provides plans for a healthy-living district that is anchored by the healthcare facility, not impeded by it. We will present our key principles for healthy healthcare-anchored neighbourhoods – in existing and new neighbourhoods, case studies of best practices, and lessons learned. Research and examples for stabilising and regenerating existing neighbourhoods, and the stable inclusion of healthcare facilities in new neighbourhoods will be drawn from the US, the UK, and the UAE.

Community engagement in planning a health-oriented development anchored by a regional hospital: A case study in Alaska, USA

Francesqca E. Jimenez (USA)
Senior research strategist, HDR

Jeri Brittin (USA)
Director of research, HDR

When purposely placed at the centre of a community ecosystem, hospitals can catalyse population health opportunities that can potentially improve social determinants of health and rebalance historical health inequities. This type of health-oriented development challenges hospitals to become an integrated wellness partner that supports the broader goals of community health. Community-based research and engagement are critical to the successful planning and implementation of health-oriented development.

Purpose: Situated in Southcentral Alaska, the Matanuska-Susitna Valley, known locally as the Mat-Su, reflects a beautiful and diverse landscape and population. But the community faces population-level health and socioeconomic challenges, such as homelessness, lack of transportation, addiction, and behavioural health crises. To meet these challenges, the Mat-Su Health Foundation (MSHF) envisions developing land adjacent to the Mat-Su Regional Hospital into a mixed-use, health-promoting campus with residential, hospitality, community, and learning spaces.

Methods: HDR partnered with MSHF to conduct a mixed-methods community-scale study to inform the masterplanning of this health-oriented development. Data collection consisted of secondary hospital and public records data, with primary sources, including visioning sessions with key stakeholders, phone interviews with community advisory group members, and a survey to engage the Mat-Su community, as well as MSHF and hospital employees.

Results: Secondary data showed that population growth trends support additional outpatient services on the new mixed-use campus. However, primary data revealed opportunities for population health improvement through targeted interventions intended to affect social and environmental health determinants. There is an evident sense of pride in Mat-Su's natural assets and a desire to foster an even greater connection to the outdoors for wellbeing. Survey respondents prioritised increased connectivity and access to nature, recreation, and healthcare and social resources.

Conclusion: Informed by broad community inputs, the final masterplan for the campus not only meets needs to improve access to healthcare services but also fosters a deeper connection to the natural environment and cultural heritage. The masterplan envisions a welcoming community health hub and a place that will promote health and wellness for all in the Mat-Su Valley.

Gonzalo Vargas del Carpio
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Head of healthcare,
Todd Architects

Kings Hall Health & Wellbeing Park, Belfast

With placemaking at its heart, Kings Hall Health & Wellbeing Park in Belfast, Northern Ireland, sets a benchmark for community-integrated health and social care. Todd Architects has been working with healthcare developer Benmore Octopus on the design of the masterplan to regenerate the Kings Hall site as part of a dynamic residential, lifestyle, leisure and wellbeing park.

Alongside a range of primary healthcare services, life sciences and early-years learning, the Kings Hall site has senior residential and nursing care, as well as assisted living spaces providing transitional and specialist care. All of this is set amid a thriving, multi-generational environment of eateries, retail and leisure facilities, and sited close to an established community.

The Kings Hall scheme adopts a fully connected, interrelated urban context. It posits a new form of urbanism driven by health and wellbeing, planned and designed around social inclusion to create a development where all ages can live side by side.

An economic impact assessment suggests the Kings Hall Health and Wellbeing Park will boost the Northern Ireland economy by £47m a year, while also improving access to services for patients and gaining the sustainability and social value benefits of co-location.

Public and private spaces between buildings, alongside the central plaza featuring cafes and retail outlets, encourage connection and promotion of active travel. In co-locating social and economic activity alongside access to quality public realm, the scheme also addresses the wider determinants of health.

In this regard, Kings Hall Health & Wellbeing Park identifies a healthcare-led solution for public authorities to work in partnership with the private sector to revitalise their city centres post-pandemic. It's a replicable model and, whether delivered horizontally or vertically, robust enough to respond and evolve to place-specific needs or tenant requirements.

It can play an important role in allowing urban areas to rediscover their social purpose and reconfigure as community hubs. Using ailing shopping centres, for example, to create a later living community, around which are focused a range of integrated health and support services, can bring people back into town centres to unlock socio-economic opportunity and investment.

A London for health: Building a population health partnership and call to action

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At the 26th Conference of the Parties (COP26) held in November 2021, 48 countries made pledges to protect the health of people and the planet by building climate-resilient and sustainable health systems through the COP26 Health Programme.

In response, we aimed to co-design with partners a population health approach in alignment with the COP26 Health Programme's recommendations and priority actions, to highlight opportunities for decision-makers to prioritise health and equity.

Practical application: We used a mixed-methods approach to triangulate current London data, evidence from the literature, and applied thematic analysis of relevant policy documents to inform and develop a population health approach, focused on health equity across London. Core themes include engaging with local communities and building inclusivity and sustainability leadership; promoting active travel, access to green and blue spaces, and air quality; and working with partners across the London health landscape to co-create unified communications and embed equitable opportunities for health in place.

Outcomes: To date, we've consolidated a population health network on climate and health for London that informs the prioritisation of actions to achieve sustainable and equitable health across partners and the city. The network brings together local boroughs, regional infrastructures, including the Greater London Authority, Office for Health Improvement and Disparities (London), and the UK Health Security Agency, as well as London Councils. We've synthesised data and evidence to make the case and instil urgency in urban contexts as drivers of health for use across the health landscape. And we've worked with local health and care partners to examine approaches across the city to identify current strengths to scale and gaps to focus resources.

Implications: Through the London Climate and Health programme, we're building the connections to implement responses that will promote sustainable urban health across London. In future, the programme will deliver a framework that can be used across the London health landscape that presents solutions for triple wins on health, climate change and equity. The framework will inform development of a broader 'Health in All Policies' approach to tackle the environmental determinants of poor health, and deliver health and climate co-benefits across London.

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Conceptual framework: Towards an integrated health indicator approach for local government

Where people live, work, and the way they interact in space have a significant impact on individuals' and community health. It's a well-known fact that South Africans continue to suffer from poverty, inequality and unemployment because of historical (Apartheid's institutionalised segregation) and structural inequality. As evidenced globally, Covid-19 specifically affected socio-economically vulnerable communities, strongly reinforcing what researchers and medical professionals already knew: that healthcare itself plays a relatively small role in overall health.

The Covid-19 pandemic is but one of many examples of the association between socio-economic vulnerabilities that result in poorer health outcomes for vulnerable communities. These include reduced life expectancy, some chronic diseases, quality of life, and lower economic productivity. In comparison, high-quality places and environments create a virtuous cycle for residents, supporting their individual and community level development, with the opposite being true for low-quality urban environments.

This paper will explore the potential for integrated health indicators to monitor health outcomes in an urban environment, using the City of Cape Town (local government) as a case study. Through a robust literature review, we aim to develop a conceptual framework, which will describe the application of an urban health indicator dataset pilot. These indicators will monitor the impact of core city functions and their impact on the health of citizens, resulting in health-advancing reforms in city policy and planning.

The conceptual framework will focus on the planning and design of a neighbourhood-scaled area, using a project life-cycle approach to underpin the indicators and thereby assist with prioritisation and identification of related outcomes. This approach considers built environment projects through all phases, commencing with policy, planning and design, through implementation, and finally to monitoring and evaluation, as per local government functions.

An integrated urban health indicator approach will enable the preparation of health monitoring and, ultimately, health outcomes in the city.

Ebbsfleet Garden City: Healthy New Towns legacy

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Ebbsfleet Development Corporation (EDC) has used the NHS Healthy New Towns (HNT) programme as a springboard towards the co-planning, design and delivery of a network of community health and wellbeing facilities. This presentation will outline how strategic planning, co-design, design management and placemaking can deliver innovation, inclusiveness, accessibility, and quality in planning and building at an urban scale.

EDC was instrumental in the HNT Network, a collaboration between NHS England, Public Health England, housing developers and housing associations. EDC worked with the network to develop a home's kitemark to help developers understand how high-quality construction and development can support healthy living. In parallel, EDC also commissioned Design for Homes to explore how health could be embedded in neighbourhood design. This work has resulted in the publication of 'Building for a Healthy Life', which has become the benchmark for urban design nationally.

The HNT created an opportunity to rethink the delivery of health and care services, and support learning on new models of integrated care. A multidisciplinary team of district, county-level local authorities and a NHS clinical commissioning group was established to drive the vision.

EDC commissioned an architectural-led consortium to progress its proposed health and wellbeing hub to RIBA stage 2. EDC aspires to deliver a BREEAM outstanding, inclusive, dementia-friendly building of civic scale within a neighbourhood of intergenerational housing and associated communal and shared internal and external living spaces, which will support a new model of healthcare.

The success of Incredible Edible Todmorden in Yorkshire inspired EDC to enable a growing movement in and around Ebbsfleet. Called Edible Ebbsfleet, the movement seeks to work with and support local residents to develop small-scale food growing initiatives along local streets, parks and gardens – both to transform the image of the area and to promote education on the health benefits of eating fresh fruit and vegetables.

EDC also worked with the Landscape Institute and NHSE to run an international landscape design challenge for healthy living, focusing on one of its future city parks. EDC is now working with the winning landscape architects and contractors to progress the scheme.

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Data-driven healthcare: How spatial analysis can drive place-based population health management and urban planning

This paper focuses on how place-based population health management and planning for healthy neighbourhoods can be revolutionised through the application of spatial analytics.

Health inequalities are avoidable, systematic differences in health caused by the interaction of multiple, wide-ranging factors that stem from the wider determinants of health. It's important for resources to be allocated proportionately to address the needs of communities and populations. And a place-based approach is fundamental in tackling health inequalities and improving health outcomes.

The extent of neighbourhoods, dynamic catchments of healthcare services, and the movement of people to access services often transcend traditional administrative boundaries. Thorough assessment of local health inequalities and place-based planning requires combining data and domain knowledge across multiple organisations and stakeholders at the place and neighbourhood level. But a lack of readily available data-driven insights at the place or service catchment level significantly restricts the capability of organisations to undertake a proactive and data-driven approach towards planning and commissioning of healthcare services to meet the needs of the population they serve.

The presentation will focus on how data-driven spatial analytics can address the technical and process-related challenges faced in supporting a place-based approach. It also discusses how, when taking a place-based approach for population health management, spatial analysis, both at a strategic and small area geography location, can highlight areas where inequalities are most concentrated, which may have been overlooked using analytical methods performed on larger areas. The integration and visualisation of a diverse set of place-based housing, transport, built environment, socio-economic and clinical health data allows information to be translated into meaningful insights that can have the most targeted impact. Through data-driven spatial methodologies, the patterns, trends and inequalities in health at a localised level can be better identified, ensuring that interventions remain evidence-based and target the most vulnerable populations.

This presentation will include practical examples of how SidM Health, a powerful spatial analytics platform, has been used by local authority public health teams, clinical commissioning groups, and estate planners to support population health management, health infrastructure planning and urban planning.

Upstreaming health and wellbeing through outcomes-led design

Paul Simkins (UK)
Associate,
Arup

We will share insights from practice-based research in health-led approaches to planning, policy and design. The work explores how collaborative asset-based approaches might enable partnership planning and investment for place-based health and wellbeing. We will outline some context and drivers for the shift towards outcomes-led design, and explore why a health and wellbeing lens can be a powerful catalyst in bringing partners together in the face of multiple overlapping challenges.

The Wider Determinants of Health (WDOH) model is well-established but its potential to shape decision-making outside of the health sector has not yet been maximised. A focus on ways to communicate and creatively apply the WDOH led Arup to develop a new place-based health asset framework as part of an integrated health-led approach.

How we define assets impacts how we collectively value, plan and invest in people and places. Asset definitions influence budgets, roles, funding and delivery programmes, often leading to siloed approaches. Rethinking shared assets and shared value to understand commonalities across the systems is critical to enabling multi-sector investment. We've been exploring how the concept of place-based health and wellbeing assets might create a common framework of understanding to unlock new partnership approaches.

We'll share some of the ways in which we've continued to test and develop the approach, including:

- developing collaborative physical and digital tools to raise awareness of the WDOH, and help project teams and wider stakeholders navigate complex systems to explore ideas and reach practical solutions;
- exploring the potential for a shared health asset framework to translate place-based data and insight to inform shared priorities and decision-making, maximise partnership funding, and evaluate outcomes; and
- upstreaming health and wellbeing in the strategic planning and design process, including supporting and streamlining other formal processes, such as health impact assessments, sustainability assessments, and social value reporting.

We will share learning from ongoing research and project applications, with a range of examples from urban strategy and engagement, to infrastructure, climate action, and review of health policy to inform local plans.

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Using green infrastructure to mitigate effects of air pollution in school playgrounds

In London, air pollution is responsible for 9500 premature deaths per year. Children are at increased risk and school playgrounds are often exposed, fronting onto busy roads. In response to a growing body of research, Trees for Cities has developed the 'Planting Healthy Air' programme to test and evaluate how to use green urban infrastructure in school playground design to address this issue.

Purpose: Planting Healthy Air aims to apply existing research to mitigate the effects of pollution through: 1. Strategic design and planting of green infrastructure; 2. Empowering schools through raising awareness, knowledge and changing behaviour; and 3. Sharing learnings and seeking replicable solutions.

Method: Since 2019, Trees for Cities, with project partners Lancaster University and Mapping for Change, have delivered and evaluated eight projects in London schools. At each school there has been co-design, installation of green infrastructure, and whole school engagement, including workshops, citizen science activities, and peer-to-peer learning over the course of one academic year.

Results: Key findings include:

- Data collected over three years at one school support wider research that suggests it is likely that planted trees have reduced pollution in the areas immediately around them.
- Engaging pupils through pollution monitoring, co-design and planting supports knowledge and awareness of air pollution issues and mitigations.
- Indications that pupils and schools were empowered to take further action to address air quality issues were identified in a number of projects, post project completion.
- Particulate monitoring (PM2.5) gave more useful data on local source pollution. NO_2 levels were low and fluctuated more widely. Other factors key to success included site selection, engagement of the full school community, and simple data collection methods for pupils.

Implications: Green infrastructure can help reduce exposure to pollutants, encourage activity in low-pollution zones, and raise children's awareness and engagement in air quality issues. Understanding of pollution levels in playgrounds can also be useful for schools in developing strategies to mitigate the effects of air pollution.

Restorative gardens in healthcare facilities and their effects on dementia patients' recovery

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It's been reported that dementia patients have occupied 25 per cent of hospital beds in the UK (Alzheimer Research UK; 2018). People who live with dementia find it hard to cope with external stressors owing to their deteriorating cognitive ability. Consequently, they lose the sense of control and safety that make up the aspects of health, wellbeing and comfort in their daily life. Therefore, designing inclusive environments is crucial to enable people who live with dementia to feel they have a sense of control and ease to maintain their condition, or delay the regressing stage of their disease.

Studies have shown that design principles from Attention Restoration Theory (Kaplan; 1995) integrated in natural environments, such as a restorative garden, may provide comfort for people with dementia to do their daily tasks (Rohde, et al.; 2020) and delay their regressing condition (Liao, et al.; 2018). This paper explores how restorative gardens in healthcare facilities can support patients with dementia.

This paper used a literature review to explore how health, wellbeing and comfort can be supported in healthcare facilities for patients with dementia, specifically through the use of restorative gardens. Abdelaal and Soebart's (2019) Restorative Healthcare Environmental Design (RHED) framework was adopted to structure the literature review. The framework highlights three core domains to achieve a healing environment: comprehensibility, manageability and meaningfulness. These domains will become the targeted restoration level for the three dementia stages: early, middle and late stage.

Existing literature indicates there are three main factors of a restorative garden that affect dementia patients: physical components (layout, accessibility, biophilia); sensory properties (acoustic environment, thermal comfort, ventilation); and spatial properties (safety, restorative ability). These three factors create the feeling of independence, good social relationships, and improved cognitive. Lack of focus in indoor environment is recorded as the only negative effect of a restorative garden on the patients. A notable finding is that reminiscence was one of the main effects of a restorative garden. However, a further study should be carried out to explore this possibility, as their regressing memory would be one of the challenges to stimulate.

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Quantifying the biodiversity gains from participatory urban gardening programmes

Various participatory organisations within urban areas seek to improve biodiversity at the green spaces they manage in an environmentally significant way, in order to reap the many benefits and co-benefits that higher species diversity offers.

Since 2011, Energy Garden has created 26 volunteer-led gardens on underused land at, and adjacent to, London Overground stations. While strides have been made to improve biodiversity at these sites, a formal biodiversity metric and annual surveying methodology is needed to quantify and demonstrate these gains.

Quantification is critical for several reasons: it's a valuable engagement and education tool for the volunteer participants; it serves to demonstrate to external interested parties that there are genuine biodiversity effects; and it can form a component of SRoI (Social Return on Investment) estimates, which can drive investment in such programmes. Most importantly, the collection of robust data will contribute to a broader understanding of the potential of urban green spaces to fulfil multiple ecosystem services and elucidate species trends in non-traditional habitats.

Small urban sites with non-expert recorders present particular challenges for biodiversity measurements. We describe and demonstrate a metric that Energy Garden has adapted from Natural England's Biodiversity Metric 3.0 and the Small Sites Metric to ensure robust urban data collection.

In this way, the data collected can maintain and track improvements at their gardens and allow comparison with similar initiatives. The novel and tractable urban biodiversity metric will inform future management strategies and practices to maximise biodiversity gains throughout this garden network. This enables communication with Energy Garden supporters and the larger London community to increase public awareness of the importance of resilient and biodiverse habitats.

Avoiding ‘green-washing’ our developments

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Chris Massey (UK)
Landscape architect,
Atkins

Implementation of nature-based solutions is heavily reliant on strategic planning of urban green infrastructure and preservation of these spaces under investment pressure.

With new developments, there are two conflicting considerations. The first emphasises the need to apply nature-based solutions, including the protection and development of urban green infrastructure. The second, driven by rapid economic development, leads to dense urban environments and habitat loss. Developers attempt to overcome social resistance caused by the harmful impact on urban natural resources with marketing campaigns centred on greenery. But these are often considered as ‘green-washing’. Understanding the relationship between buildings, the surrounding context and micro-climate are central to the design of places that support human wellbeing, comfort, and enjoyment.

Micro-climate analysis in urban environments helps in understanding and mitigating adverse effects of local weather in neighbourhoods, public spaces and across cities. It has a multi-fold purpose: identifies levels of comfort (or discomfort) for the users; helps maximise use of public spaces by mitigating discomfort conditions; informs the design by providing evidence data to guide design solutions and helping mitigate urban heat island effects; creates urban fabrics that are more resilient to climate change-induced events; and helps reduce building energy demand using more climate-sympathetic massing arrangements.

We’ve developed an advanced methodology, including a mix of metrics that allows for the analysis of design impacts on the local environment, selection of building materials, and usage of vegetation to help mitigate factors found in the external environment, avoiding ‘green-washing’.

The City of London, in collaboration with an Atkins-led design team, is undertaking the second phase of a refurbishment project on the podium decking and public realm at the Barbican Estate in Central London. We’ve used the City of London’s Biodiversity Action Plan to increase urban greening to create meaningful habitat aligned to the Barbican’s needs. We’ve applied evidence-based criteria to capture climatic comfort conditions on a micro scale, helping mitigate external environmental concerns that pose serious risks to health and wellbeing. The design strikes a balance between new biodiverse habitat and increased public amenity, ensuring that greening has multiple functions beyond the aesthetic.

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Circular economies for sustainable health and wellbeing

The 'take, make, use, lose' approach to planetary resources has contributed to climate, biodiversity, and nature crises, accounting for 45 per cent of emissions. Adopting circular economy approaches – applying regenerative approaches to resource use – in just five areas (cement, aluminium, steel, plastics, and food) could halve these emissions. Cities therefore have a vital role to play.

Circular city economies must be equitable, inclusive, and address health inequalities. Wales, the site for this case study, is a global leader in recycling and provides an example of how past success can be applied to achieving a circular economy with opportunity for all.

Methods: Public Health Wales used health impact assessment (HIA) methodology to investigate the public health impact of refocusing on waste reduction and reuse in Wales. The HIA includes an assessment of the impact of Covid-19 on this topic.

Findings and discussion: Findings include:

- positive health benefits at a whole population level;
- major positive impacts for groups that have historically suffered health inequities;
- positive impact for employees of public bodies who play a role in 'being the change' towards a circular economy;
- indirect positive impact in mitigating general population risks associated with climate change;
- policies for recycling can unintentionally conflict with those intended to reduce resource use;
- negative impacts are short term, evolving into long-term positive impacts, meaning a period of transition needs careful planning; and
- during Covid-19, reuse facilities have been closed for extended periods of time and has increased awareness of the importance of key workers, including in waste management.
- **Conclusion:** Circular economy approaches can create sustainable health and wellbeing, be inclusive, and create opportunity for all. The scale of change should not be underestimated, and transition should prioritise protecting vulnerable communities. Practitioners, researchers, and policymakers all have a role to play.

Understanding climate-related health vulnerability and social inclusion in greening cities

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It's vital that we understand the consequences of urban greening projects for the local communities in which they are undertaken. This can ensure that urban greening not only improves the local environment but that the full range of benefits are felt by the residents of these communities.

The relationship between urban greening and gentrification is multifaceted, with instances of gentrification subsequently attracting investment in urban greening projects rather than the other way around. To capture this, we've developed a two-part methodology to examine the local conditions before and after implementation of urban greening projects.

Part 1: Small-area classification: Using UK Census data, deprivation data, and climate data, a baseline classification of small areas has been developed based on demographics, socio-economics, environmental deprivation, and exposure to climate-related health risks. A quantitative data-driven spatial analysis between this classification and the locations of urban greening projects reveals the types of areas that attract urban greening investment. Are these areas most at risk and in need? Or does gentrification often precede urban greening?

Part 2: Longitudinal study of population change: The second part of this methodology uses annual population churn data and the Residential Mobility and Deprivation (RMD) Index, available from the Consumer Data Research Centre. The RMD Index provides yearly small-area estimates of the mean differences in residential mobility and deprivation of all known adults' moves to, from and within neighbourhoods. These data provide insight into how the residential population has changed in the years preceding and following green infrastructure projects, including whether incoming and outgoing residents moved to and from more or less deprived areas.

We examine these population changes in relation to climate exposure and vulnerability, and the associations with urban greening. This methodology will be demonstrated through a London case study of public urban greening projects. Gaining a comprehensive understanding of the relationship between urban greening and gentrification ensures that decisions on both the location and design of future projects are made with the local population in mind, minimising the risk of residential and social displacement and subsequent climate injustice.

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Director,
Alexandra Steed URBAN

South Essex green and blue infrastructure study: Creating healthy cities for the whole community of life

Alexandra Steed URBAN was commissioned to undertake the South Essex Green and Blue Infrastructure Study (SEGBI), on behalf of the Association of South Essex Local Authorities (ASELA) – a partnership of seven neighbouring councils in the Thames Estuary.

The brief was to prepare a strategic document that would form part of ASELA's Joint Strategic Framework and would feed into local plans and masterplans. The region is under extraordinary pressure to grow, delivering a minimum of 90,000 new homes and more than 52,000 new jobs by 2030. Yet it's also faced with extreme challenges: sea-level rise and inadequate flood defences; stormwater flooding and threatened infrastructure; loss of important habitats; community deprivation; and lack of connectivity and access to green space.

The team sought to answer the questions: How can we unlock the intelligence of nature to create a new model of sustainable planning and development? And how can green and blue infrastructure create thriving places for the whole community of life? A co-design approach was undertaken with community stakeholders and a 'land-based' methodology applied to explore how living biophysical systems provide ecological infrastructures that can reshape and drive future planning and development.

The resulting SEGBI study provided a ground-breaking strategy for the delivery of sustainable growth, and demonstrated how the application of living infrastructure has the capacity to address climate change and ecological collapse, while also supporting sustainable housing, healthier communities, and resilient infrastructures.

Proposals were framed within the vision for the delivery of a new regional South Essex Estuary (SEE) Park, driving effective place-shaping and levelling up for the most deprived communities, while providing large-scale nature recovery and biodiversity net gain. Comprehensive analysis and policy recommendations ensured the benefits of green and blue infrastructure were understood to enable best practice to be embedded within planning documents and decisions guiding future development. A natural capital account also shows the tremendous economic value of natural assets.

The SEGBI provides a method for developing living infrastructure and place-shaping strategies that can be applied throughout the UK, and provides benefits at the local, regional, national and international scale.

Veraine: Planning a health-creating community

In this session, a new ecosystem approach to designing and planning healthy and health-creating communities is explored.

The session will discuss a set of guiding principles developed to create a community where citizens have trust in the way the community works; for example, that it is a safe, secure and well-functioning community where laws and regulations are legitimate and aligned with values such as diversity, equity and inclusiveness. It will ensure citizens have the resources they need – economic, public and social. And it will create the conditions for people to live meaningful and purposeful lives.

The session will draw on the experiences of global exemplars, such as Hammarby Sjostad in Stockholm, Bicester healthy new town in the UK, the Atlanta Beltline in the USA, and ReGen Villages, a new concept for resilient neighbourhoods. It will also discuss innovative projects, such as Energy Garden in the UK, and technologies such as Vertical Futures, both of which have applied the latest ideas in health creation and planetary health.

And it will examine how these exemplars are informing ambitious developments like Veraine, a proposed new community in Pickering, Ontario, with a vision to provide its residents with the resources, capabilities and sense of purpose in their daily lives to flourish and lead a good and healthy life.

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ReCharge LA: From pump to plug

As part of LA's Green New Deal, the city is targeting ambitious goals for 2050, which include a zero-carbon grid, zero-carbon transportation, zero-carbon buildings, zero waste, and zero-wasted water. One significant link to this lower-carbon transformation is the rise of electric vehicles, and with that, the future decline of LA's most omnipresent landmark: the gas station.

Our team was invited by the city of Los Angeles' chief design officer, Christopher Hawthorne, in collaboration with the 3rd LA public-affairs series at USC's Academy in the Public Square and the Los Angeles Cleantech Incubator, to participate in 'Pump to Plug', a symposium designed to solicit and analyse creative responses to the challenges and opportunities posed – in urban, architectural, and environmental terms – by the transition from fossil-fuelled cars to electric vehicles.

Our challenge was to re-envision the future of LA's iconic gas station sites, and in their redevelopment, rebalance environmental justice by creating affordable housing and opportunity in critical growth areas of the city. Called 'Re-Charge LA', we analysed spatial, social, and economic data across 550 gas station sites to determine which ones were most suitable for redevelopment. We looked at measures such as proximity to transit, dwelling count, ethnic diversity, and annual gross income per household. These insights were overlaid onto the city grid, evaluating each site on transport options, street walkability, and land use.

We cycled through permutations of different data sets using a clustering algorithm to find the most appropriate locations for an equitable spread of use types across the city. We collaborated with Woods Bagot to envision the future sites, with a focus on their urbanism and potential landscape and community-serving elements. With these interventions, we calculated that the proposal would add 20,000 new dwellings, provide more than 300,000 additional green spaces to nearby communities, and create 43,000 jobs.

The Re-Charge LA proposal uses an electric mobility hypothesis as an opportunity to reinvigorate and re-energise the future. Through our research and design proposal, we sought to explore the potential of creating cultural destinations better suited for the sustainable and more active future of Los Angeles communities.

Air pollution found to be reduced both in and around low-traffic neighbourhoods in Islington, London

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Cities around the world are seeking solutions to reduce traffic to help create safe, attractive and healthy places for community members. Low-traffic neighbourhoods (LTN), whereby vehicular entrances are restricted throughout entire neighbourhoods, were implemented at an increasing pace in the UK during Covid-19 lockdowns. Previous studies have dispelled perceptions of inequity of LTNs in London, demonstrating that people in deprived areas were twice as likely to benefit from their implementation than people in less-deprived areas. Questions remain, however, on whether traffic and air pollution could be displaced into streets surrounding the cordoned-off neighbourhoods. Our study aims to assess air pollution and traffic impacts of LTNS in and around intervention areas.

Methods: We obtained monthly traffic count and nitrogen dioxide (NO_2) concentration data from Islington Council, London, where three LTNs were implemented in 2021. Such data are regularly collected by councils, but rarely in a systematic approach in view of evaluating interventions. For each LTN in our study, we identified pre- and post-intervention monitoring periods, and categorised eligible monitoring sites to represent three conditions: within LTNs; at the boundary of LTNs (less than 500m away); and in control areas unaffected by the LTNs. Then a generalised 'difference in difference' approach was developed to assess whether LTN implementation had a significant causal effect on NO_2 and traffic volumes.

Results: A total of 697 monthly NO_2 and 108 monthly traffic counts were usable as pre- and post-intervention observations for the analysis. After accounting for potential group- and time-fixed confounding effects and other confounding effects, LTN implementation was found to reduce NO_2 statistically significantly within the intervention areas (5.7 per cent) and in boundary areas (8.9 per cent) compared with the external control sites without LTN implementation.

Conclusion: We found evidence that neighbourhood traffic reductions measures can lower air pollution and traffic in target areas, without necessarily causing displacements in surrounding streets, thus limiting inequitable effects. Such measures are also able to provide safer, healthier and pleasant environments that are suited to social interactions and physical activity, and generally supportive of greater wellbeing.

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Ontario Line urban developments, supporting transit-oriented communities

The Ontario Line (OL) is a new 15.6-kilometre, 15-stop transit line running from the Toronto waterfront, through the downtown core and heritage districts, along to the Ontario Science Centre in the northeast. The Ontario Line is intended to alleviate crowding and congestion on the existing transportation network; support new urban development and transit-oriented communities; connect more Torontonians to places of work and recreation; increase connectivity and resilience of the Greater Toronto and Hamilton Area (GTHA); and yield high quality of life, prosperity, and environmental sustainability.

Growth in the GTHA now calls for expansion of its transportation network. By 2041, the GTHA population is expected to reach over 10 million people, a 41-per-cent increase. Transit system expansion is essential to connect people to schools, jobs and communities.

Three issues impact travelling and impede growth: crowding and capacity – the existing transportation network will not be able to provide reliable, fast mobility with the frequency required by future population growth; coverage and resilience – the existing network has limited direct access to the downtown core; and growth and development – the existing network doesn't provide extensive rapid transit connections, including to Eastern and Western growth areas of downtown Toronto and underserved lower-income communities.

Metrolinx and Infrastructure Ontario began the preliminary design process: optimising the project; confirming anticipated costs and benefits; responding to community feedback; and developing a delivery plan. In parallel to the preliminary engineering process, and key to the success of the project, is deliberate, focused stakeholder and public engagement.

From First Nation land recognition, seeing the transit project as ground-breaking for the region, and acknowledging opportunities for transformational transit-oriented developments along the alignment, the project team has endeavoured to advance Metrolinx and Infrastructure Ontario's vision with the level of diversity, inclusivity and opportunities characteristic of Toronto.

This presentation looks at the Ontario Line design and planning, specifically how the system interfaces with the City at different scales and levels. From the alignment crossing the City, levels of intervention at each location have been deliberately planned to take into account local engineering issues, including contextual characteristics and the communities the system touches.

An inclusive approach to rethink linear urban voids

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Contemporary cities emerged as a result of diverse social, economic, urban and architectural transformations, such as redevelopments as well as through cycles of abandonment and regeneration. In this scenario, the ubiquitous presence of urban voids raises questions on how to exploit potential spaces in search of alternative and more inclusive models of circular economy and opportunity for all.

The story of urban voids is usually one of dysfunctional spaces, often of unrealised intentions due to their uncodified nature, which makes them fall under the category of secondary interventions.

This paper questions the fallacy that the "space of the difference" in our cities can simply be adapted to conform to the predominant climate. Against the common strategy to treat these spaces like ancillary commodity, it's becoming relevant to reassess their social value from the bottom up, in order to discover physical roots, theoretical foundations, and equitable access opportunities.

This paper presents the case study of linear urban voids formerly used for transportation in Aberdeen, Scotland, and now converted into a pedestrian and bicycle path. A combination of methods has been used to understand the nature of these linear voids: rhythmic analysis, which involves a multi-sensorial experience of the space in movement; and graphic interviews, which involve interpretative diagrams (mental maps) that help visualise with patterns how people use and imagine the space.

By using these inclusive urban design methods, a taxonomy of design principles is outlined. What will happen if we consider the urban voids as always "tensioned", both made and occupied by forces that produce and use them? In this sense, the relational definition of architecture will prevail and the "pre-urban void" (Stavrides, S; 2007) would be integrated in a network of relationships, where the architectural is only one of the possible codified forms of expression.

A deeper interaction between past, present and future emerges. If we're able to include the question of heterogeneity under different perspectives, we could assert that urban voids embody active and equitable forms of social relations.

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Framing community health for regional transportation planning

Transportation, health and sustainability are deeply intertwined, but regional transportation planning has often focused solely on building more roads to meet traffic demand. However, incorporating knowledge of the bidirectional linkages between transportation and health into the planning process is increasingly of interest to metropolitan planning organisations.

MetroPlan Orlando, the federally mandated transportation planning organisation for the Central Florida region, is an example of one such body pushing the boundaries of regional transportation planning, by integrating health into their efforts to move people and goods safely and efficiently. While there is significant empirical work linking different aspects of the transportation system and health, a holistic framework that integrates both transportation planning and public health perspectives is needed to guide this integration process.

In this presentation, we describe MetroPlan Orlando's collaborative development of the PATHS (Planning and Analysis for Transportation-Health Strategies) framework for understanding the linkages between community health outcomes, the social and physical determinants of health, and the built environment.

We also describe how the framework was used to inform organisational strategic planning, provide a brief overview of MetroPlan Orlando's Health Strategic Plan, and offer a discussion of additional use cases for the framework.

Camden Connected: Co-designing accessible and inclusive transport solutions

The UK Government, Department for Transport, Local Government Association, Mayor of London, and Transport for London have committed to improve public transport to reduce carbon emissions and enhance air quality. Improving bus travel has been identified as the easiest, quickest and cheapest way to boost public transport (Department for Transport; 2021, 2022).

Bus services are used most by those with lower incomes, those with disabilities, and those who rely on subsidised transport schemes (Aceves-González; 2017; Clery et al; 2017; Nickpour et al; 2012). Lack of access to inclusive transport options also contributes to social isolation and limits opportunities for community engagement and leisure activities for people with disabilities (Davies et al; 2010; Smith and Dixon; 2018; Smith and Symonds; 2019). Camden Council received funding from NHS Digital and worked with Snook, a service design and digital agency, to explore how technology could support people with disabilities to travel.

Taking a user-centred design approach, we discussed with residents in day centres, supported-living services and third-sector organisations. We found they often felt comfortable in their local neighbourhood but didn't feel confident venturing beyond that. They also found mapping apps inaccessible, relying on trusted people to help plan, print or draw directions for new routes. Some used methods such as counting stops or spotting landmarks to help them find their way. Through co-design we explored how technology could help plan journeys and how information might enable them to travel independently and safely.

We co-produced a solution with people with learning disabilities that enabled the creation of personalised travel maps with support from a trusted person. Participants expressed a preference for detailed travel maps that could be printed with clear guidance and visual references of waypoints. We developed a website that uses Google Maps imagery and is built on the TfL Application Programming Interface, which provides access to live data, including bus times. We created a Minimum Viable Product, and identified and tested key features that would support travel planning. Further testing has enabled us to iterate our solution. We will share our processes, barriers and challenges faced, and the latest developments in the project.

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Using complexity-informed methods to explore population health interventions: Exploring car dependency in Belfast

Reducing car dependency requires a multi-sectoral and multi-policy approach within a complex landscape. This project explores how to reduce car dependency in Belfast, a city that has some of the highest levels of car use in Europe. It's informed by systems thinking and complexity science. Outputs from the research are co-designed with a range of stakeholders from the city who have been involved in its design and delivery.

This presentation will describe outputs from a group-model building workshop with stakeholders, where a causal loop diagram (CLD) was developed, to help understand the factors affecting car dependency in Belfast. This workshop followed on from a number of previous tasks in the project. A stakeholder network analysis highlighted the most relevant stakeholders to be involved. A review of systematic reviews regarding interventions to reduce car dependency established a baseline of evidence, and a review of local policy documents added to this evidence at the local level. Interviews also took place with stakeholders and residents, and key themes from these were fed into the CLD.

Development of the CLD highlighted the importance of the co-design process and of working collaboratively with stakeholders in its development. In Belfast, the CLD helps show the key influencing factors on car dependency and the interactions between these factors, which were focused on policy, infrastructure, economics, and social norms. Although car dependency is often linked to a car-orientated mindset, the discussions and the development of the CLD highlighted that this mindset is, in fact, the effect of other parts of the system not working effectively. Although some of the factors relating to car use come down to individual behaviour, it's important to remember that these individual behaviours are influenced by higher level, city-wide factors.

In the next stage of the project, stakeholders will work with the project team to develop and refine a series of potential actions and interventions. These will draw on what has already been developed through the CLD and ensure that they reflect the challenges that have been highlighted.

"But can I walk to work?" Spatial modelling and data analysis to explain how the built environment supports walking

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Multiple studies show walking is associated with positive outcomes. However, because the impacts of daily behaviour are complex to measure and understand, planning and design disciplines and policies have tended to focus on intentions.

Recent developments in technology and capability have made it possible to look at walking behaviour (at local authority and MSOA levels) across the entire country, and use data science techniques to understand the contribution of factors, including socio-economic, demographic and built environment characteristics.

By better explaining how the physical environment is configured in areas with higher levels of walking, it becomes possible to be more specific in the policy and design of new places, as well as identify existing areas in need of intervention, and to specify this intervention.

Methodology: Our study used a selection of open and proprietary country-wide socio-economic, demographic and environmental datasets. Explanatory multi-variate regression modelling was used to identify the features consistently found in areas where more people walk to work. Study of individual features, spatial mapping, and testing of co-efficients, P values and residuals were used to assess the robustness of the model and to ensure there was a corresponding logic model.

Results: Our model describes around 65 per cent of the distribution of MSOAs and local authorities where higher levels of walking are recorded, considering resident age, income, family size, housing type, walkability index, and settlement size.

Conclusions: This research shows that multiple conditions are in place where higher levels of walking are recorded, and that these work across scales and domains. This leads to multiple lines of discussion about how to increase walking, especially as some of these features are almost impossible for local authorities to change. However, by using this type of model and mapping results, it could enable co-ordinated soft and hard interventions to be deployed across cities, for instance, by targeting engagement and behaviour change campaigns to specific demographic groups in particular areas, developing policy to provide certain housing units in more central and walkable areas, or by providing mitigating measures, including shared/subsidised clean transport.

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Active travel community co-production pilot

This project was designed to promote active travel in areas of relative disadvantage and increase community organisation capacity to activate local residents. It tested a community outreach approach to activate those members of the community who experience the greatest health inequalities and the highest barriers to active travel.

The project was undertaken in two market towns, Witney and Bicester, and in East Oxford. It was designed to complement infrastructure improvements to ensure that communities experiencing high health inequalities were supported to increase levels of cycling and walking. Oxfordshire County Council commissioned Active Oxfordshire to engage with and fund 'less traditional' organisations well placed to reach the target audience. Community groups proposed a range of activities, including social walks and bike rides, Dr Bike sessions, bike libraries, adult and child walking maps, and inclusive cycle provision and training.

Participants were asked to complete a one-month 'check-in' survey that gathered demographic data, information on their activity levels, their active travel habits, and the barriers they were facing to active travel. They were then followed up at six months to identify if physical activity and modal shift had been sustained.

Outcomes: At one month, the proportion of participants meeting chief medical officer guidelines for physical activity was 50 per cent. The number of days in the last four weeks during which participants walked for travel was an average of eight days. And the number of days in the last four weeks during which participants cycled for travel was an average of three days. Follow-up data will be available in September 2022.

Implications: This co-production approach working with trusted community groups was effective in engaging people from disadvantaged communities and supporting them into active travel. In order to replicate this in other communities, the following should be considered: language is central to inclusion; relaxed funding deadlines support collaboration; there should be no 'computer says no' approach; small indicative funding supports wider engagement; capacity is required to support development of proposals; and working with organisations trusted by the community is important.

Keynote: What creates healthy cities?

Rachel Cooper OBE, PhD (UK)
Professor of design management and policy, Lancaster University; Main commission member, The Commission on Creating Healthy Cities

Professor Cooper will present the findings of a report published in July by the Commission on Creating Healthy Cities (CCHC), entitled 'What creates healthy cities?'

The CCHC was run by the Global Centre on Healthcare and Urbanisation (GCHU) at Kellogg College, the University of Oxford, in partnership with The Prince's Foundation. It investigated the links between urban matters and health and wellbeing.

The CCHC launched in December 2020 and concluded in Summer 2022. Four meetings were held for the main commission and three meetings for each sub group and the international advisory board.

With an ever-increasing proportion of the global population residing in densely populated urban environments, it's vital to consider how city design and use impacts the health and wellbeing of residents and the spread and severity of infectious disease outbreaks.

The Commission used evidence from global events to inform urbanisation and how existing urban infrastructure and communities can adapt to become more resilient in future outbreaks. While the Commission focused its recommendations on the UK context, it also assessed the global evidence.

The CCHC took a holistic view of these issues, recognising the backdrop of the climate crisis and taking account of factors such as poverty and diversity. The target audience is the intersection between policymakers and practitioners in the UK's local and central governments and devolved administrations, including town planners, architects, urban designers, and allied health professionals, to inform the creation of our built environment.

Rama Gheerawo (UK)
Director,
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Keynote: Creative leadership in cities: Born from design

Rama will draw on the teachings from his latest book, *Creative Leadership: Born from Design*.

The Helen Hamlyn Centre for Design, the RCA's largest and longest-running centre for design research, has been influential in developing the practice of inclusive design over its 31 year-history. It is where Rama cut his teeth in addressing instances of exclusion by age, ability, gender, race, geography, class and economic context, just to name a few aspects of human diversity that we need to better consider. Inclusive design aims to address the largest number of people. At the Centre, they simply say it is about 'improving life'.

The genesis of the book and model for creative leadership emerged from a single insight: we need creatives who are leaders and leaders who are creative. It was fuelled by an ache for equity and a realisation that if you change leadership, you can potentially change everything.

Throughout the book, using real case studies, Rama reflects on creative leadership as a transformational process that can be applied to individuals, groups, organisations and projects. While it draws on practice from the creative industries, it transcends disciplines, roles and institutions. The model was honed over the last decade to create a framework from living experience.

At the book's core are three leadership values of empathy, clarity and creativity. These are based on the principles that:

- everyone has leadership potential and most of us can access these three values;
- creativity is a universal ability to develop ideas that positively impact ourselves and others;
- empathy is the hallmark of a 21st-century leader and is recognised as a signature value; and
- clarity is the link that aligns vision, direction and communication, personally and professionally.

The interplay of these values is what gives the model its strength. Creative leadership proposes and cultivates a culture of inclusion. Current events continually demonstrate there has been a real need for its open-handed and open-hearted stance. It is an idea of its time, born from design and drawing on enduring, human values. Importantly, it provides a platform for us all to create the leadership we want to see, and effect this change in the world around us.

Keynote: Design and the Art of Care: The hospital as an anchor for health equity and community renewal

This talk will communicate our vision for the hospital of tomorrow: a health centre that nurtures both body and mind, treating the sick, the well, and everyone in between.

It will look at how that health centre can create change in the city, acting as a catalyst for health creation, community regeneration and the rebalancing of social inequity. Inspired by the adaptive qualities of living systems, it must function as a connected and forward-looking institution, evolving in response to its environment and the needs of its communities.

The talk will examine the ways design can achieve these ambitions, creating an ecosystem fuelled by a bustling marketplace, wrapping the building in greenery, and surrounding it with a public park. Defined by the needs of its users, this new health centre will actively deliver the art of care, inspiring healthy living by providing community support and social prescribing services to target the issues that most challenge it: debt; poor housing; limited access to childcare; bad diet; and dissolving the sources of chronic stress that lie at the heart of serious illness among our most economically disadvantaged communities.

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The Accelerating City Equity (ACE) Project: A framework for assessing equity in cities

Equity in sustainable development is when all community members, especially those who have been historically underrepresented, have agency over and equitable access to environments and opportunities that support health and wellbeing today and for future generations.

There is an urgent need to make equity visible and actionable within sustainable development discussions and decisions. The Accelerating City Equity (ACE) Project aims to accelerate the exchange of global knowledge on the drivers of equity in sustainable urban development and the implementation of practices found to be most catalytic in cities worldwide. Case studies of drivers of equity in sustainable urban development practice from across the globe were reviewed to find tools, elements, policies, programmes, and initiatives, and identify common strategies and indicators used to achieve equity and sustainability. A scoping literature review was conducted to determine which strategies have peer-reviewed evidence that supports achieving equity. Strategies were then weighed based on the literature. This led to the creation of the ACE framework – a tool to assess equity within existing bright spots.

Practical application: The ACE framework includes metrics that measure the current status and needs of the community, and actionable strategies that can be used to achieve equity within communities.

Outcomes: Prior to this session, the ACE framework will have been reviewed by six regional hubs across the globe and assessed with over ten 'Bright Spots' internationally. The aim is to bring stories to life that demonstrate the impacts of driving equity in urban development. Delegates will be encouraged to think about equitable strategies that have worked in their projects and consider ways to fill gaps in achieving equity.

Implications: By late 2023, the ACE online platform will launch to allow experts from around the world to continuously use the ACE framework to assess their projects and share their learnings and knowledge, practical tools, and educational videos to aid equity-driven sustainable development. In addition, three to five demonstration projects that make use of the ACE framework will be designed in the United States.

Can an Indigenous landscape-first approach to design heal our cities?

The drive for density in urban centres tends to create closed-off developments, dissolving opportunities for valuable connection and fracturing a city's role in its population's wellbeing. Can an Indigenous landscape-first approach to design solve this issue – healing our cities and populations?

Architects from Stantec, BDP Quadrangle, and Two Row Architect, a 100-per-cent native-owned and operated firm from the Six Nations reserve in southern Ontario, explore this question through the case study of Anishnawbe Health Toronto's (AHT) Indigenous Hub, a project that defies city building guidelines to open its site to public use and connection.

On a downtown city block in the heart of Toronto's West Don Lands, AHT set out to establish an 'Indigenous Hub'. Developed through engagement with the First Nations community and other stakeholders, the vision for the Hub is a collective presence of Indigenous-focused services – social, cultural, economic, and health-related – and Indigenously inspired landscape and building design, to create an Indigenous gathering place in the city, open to all. The project sets out to heal people and the city by embracing its role in city building, creating an accessible environment of wellness and healing. The Hub occupies a prominent location in Toronto's Canary District in the West Don Lands, within what was once the delta of the Don River, a traditional Indigenous land. Human settlement in the area can be traced back 7000 years. The site is highly visible and accessible within the downtown core.

Land has a cultural and spiritual dimension in Indigenous cultures. The masterplan for this development is inspired by a landscape-first approach. Rather than the usual 'build to the street edge' formula, this approach implies a dominance of landscape – street edges that prioritise transparency and connection to the landscape. The design reflects an Indigenous perspective with native trees and traditional healing plants, and buildings and landscape relate to each other seamlessly. The Indigenous Hub celebrates diverse perspectives to deliver a visitor and resident experience, one that is respectful of its site, history, and culture. It will enrich the urban landscape of Toronto, adding a new layer of Indigenous culture and presence, while improving and supporting the lives of the city's Indigenous people.

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Healthy cities for / by people: Building inclusivity into the urban design process from the start to stimulate healthy living

This paper addresses the key problem where too many spatial interventions that aim to improve a healthy lifestyle fail to serve all parts of society, leading to poor use of spaces. The spaces reflect the designer's perspective of what a public space should be used for. Instead, inclusive design that stimulates healthy living should reflect the desires and needs of a large variety of users and stakeholders.

The first part of the paper shares practical insights learnt from the urban design field, exploring some best practices of inclusive design. Three lessons are drawn: 1) co-creation as a process for inclusive public spaces and desired healthy behaviours; 2) momentum might be more important than measurable impact; and 3) including many different perspectives is key.

The second part dives more into the 'how' of inclusive design for healthy cities. It shows how the three lessons drawn were tested in a concrete research by design project – based on which a framework for inclusive design was outlined and tested. The inclusive design process is defined by four analysis layers: health data, special quality, policy and experience. The paper explains how these inform a richer representation of a neighbourhood.

Finally, the paper concludes that a framework for inclusive design should always be under debate and should constantly develop as society evolves.

Design for inclusion, equity and social justice

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Realising inclusive built environments is a relatively new approach that is often easier said than done. While there are codes and standards that refer to areas such as disability, we must also consider our intersectionality and range of perspectives that are not necessarily legislated. What does inclusion really mean in our built environment? How are issues of inclusion, equity and social justice expressed? What are the shared opportunities and benefits?

Placemakers have the capacity to influence responsible change to the built environment. We recognise that much of our existing architecture, urban spaces and interior environments have inadvertently created barriers to inclusion. As city builders, architects and designers, part of designing for inclusion is to listen, learn and reflect on the wide range of perspectives and lived experiences of people to positively shape the built environment.

We believe a key part of fostering a healthy city is rooted in supporting the development of an inclusive city. From a North American perspective, this presentation outlines practices to advance design for inclusion, equity and social justice. The presenters will also share an inclusive approach to engaging with existing underserved communities through a project case study of East New York, USA, which demonstrates shared value to improve urban health and community resilience. Attendees will learn about emerging inclusive and equitable design concepts to community engagement approaches, which can support a more responsive and inclusive design process and outcome to, ultimately, support the evolution of healthy cities.

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Living high streets

In May 2022, the Ministerial Advisory Group (MAG) for Architecture and the Built Environment for Northern Ireland published the Living High Streets Craft Kit, following an extensive co-design process with collaborators. Last year, the Northern Ireland Executive also set up a High Street Task Force, which culminated this year in the publication of 'Delivering a 21st century high street', containing 14 recommendations. The first three recommendations relate to implementing the Living High Streets Craft Kit, which will be considered by incoming ministers.

Conceptual framework: The approach challenges communities to work together through a series of questions about all aspects of their place. The desired output from these conversations will be a co-designed Living High Streets Framework, led by a local action group and underpinned by local knowledge, agreed priorities, and means of delivery. The process promotes community ownership of places, their stewardship, and the pride that comes from that.

In developing the Living High Streets concept, we reviewed reports and guidance on high streets from Wales, Scotland, England, Ireland, USA and Canada. From this, we developed a list of resources – tools and practices – that communities could use.

The Living High Streets approach is built on social sustainability, wellbeing and equity. It positions the high street as a neighbourhood representing the kernel of places, and is about developing a connected and living environment.

Practical application: We're currently trialling the Craft Kit in the Borderlands initiative (England/Scotland) while working with the High Street Task Force in Northern Ireland on next steps, including training, mentoring and pilots. It's expected that pilots will be started by willing councils and led by local action groups. Feedback will help refine the Craft Kit.

Outcomes: The initial co-design process shows we can develop consensus around a people-centred change model. We've stripped away as much technical language as possible and set up the themes and questions to grow community skills and confidence.

Implications: The Craft Kit approach challenges traditional methods applied to placemaking, particularly high streets, and will have significant impacts on future practice and policy development.

Selfoss Midtown Iceland

David Martin (UK)
Director and co-founder,
M Worldwide

A centre of commerce and small industries with a population of 9000, Selfoss is the largest residential area in South Iceland. It's located about 11km inland from the southwestern coast of Iceland and 50km from Reykjavík.

Over recent years, Selfoss has seen sprawling development. To help improve the environment for the local population, a bypass is being built with the objective of massively reducing through traffic and improving the quality of the immediate area.

This was the catalyst for local developer Sigtún to develop a concept to establish a new town centre. Some 35 historic buildings, previously damaged by fire, or which had fallen into disrepair, are being reconstructed to form a new cultural centre, which opened last year. The new centre hosts shops, restaurants, hotels and cultural activities.

The most significant aspect of the development was to recreate and rebuild, and, in some cases, move and repurpose a range of buildings. Some 13 buildings form the first part of the town centre development. These create a development of an intimate and human scale, interwoven with largely car-free walkways and lanes. The buildings, materials and colours create a variety and texture that are both simple and familiar.

Public realm and planting, including a community amphitheatre, are designed to encourage use of outdoor space while protecting users from the unpredictable and often harsh Icelandic weather. The scheme also encourages use of nearby natural leisure resources and countryside for walking, running and cycling, as well as the Ölfusá river.

Future phases of the town centre are in progress and will complement the main town thoroughfare and streetscape to encourage dwell time and enhance the experience for residents and visitors.

Careful curation was central to developing the strategy for a suitable mix of residential, hotel, hospitality and retail. Other aspects include the repurposing of iconic buildings – for example, the state bank, Landsbanki, has been repurposed into co-working space. Reykjavik City Municipality has an arrangement so its employees can work from this location rather than commute to the centre of Reykjavik.

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Engaged: Re-using empty commercial premises as public toilets, as a model within high street regeneration

In this paper, we will share the findings of the first stage of the Engaged project. Engaged aims to put a toilet on every high street, by reusing empty commercial premises to build public toilets. The Engaged model proposes to share premises with start-ups, incubator space or community initiatives, while providing an overlooked public health infrastructure that supports high street regeneration. Toilet facilities will be designed with local communities through co-design methods, to meet the needs of those otherwise excluded from the high street. The Engaged approach aims to combine the needs of inclusive design, public health, and both financial and environmental sustainability, within the city landscape.

The first stage of Engaged was to test the feasibility of the proposed model within high street regeneration; identify opportunities and barriers within London local authority regeneration teams; and gain insight into mechanisms for funding.

To meet these aims, the Helen Hamlyn Centre for Design and Pim. studio architects held a workshop with London council regeneration officers in May 2022. The online workshop shared the idea of inclusive public toilets, identified opportunities for toilets within specific regeneration schemes, and captured the officers' barriers to Engaged, in general and within each local context. Data were captured through structured online activities in breakout sessions, using the software Miro.

Data were analysed thematically and used to inform a pre-feasibility study for different models of Engaged, for example, small commercial premises, larger community spaces, and temporary self-contained facilities. The researchers then reframed the Engaged model, based on the workshop findings (in progress). This stage informs and complements two further elements: evidencing the UK-wide need for an emphasis on public toilets within high street regeneration through expert engagement, geographic data, and a review of government guidance; and the prototyping and testing of a co-design approach with a London community within one of the regeneration schemes identified.

Engaged is part of the Mayor of London's Designing London's Recovery programme, which is funded by the Local Enterprise Partnership for London, delivered in partnership with the Greater London Authority, Design Council, and CUSSH.

Health in urban planning and design – urban health agenda at WHO

Planning decisions can create or exacerbate major health risks for populations, or they can foster healthier environments, lifestyles and create healthy and resilient cities and societies.

Assets-based approaches need to bring actors and decision-makers together around a positive baseline, recognising health as an enabler and an outcome in the process. Rather than putting problems at the centre, these approaches place the emphasis on the community's and locality's assets, alongside unmet needs.

This session will present a selected number of programmes and activities of the World Health Organization, aiming at offering practical guidance on how to integrate health into urban planning and governance.

The first presentation will discuss the linkages between climate-resilient urban environments and health and the role of urban planning in adaptation and mitigation efforts to both protect communities from climate shocks and stresses and to optimise the health co-benefits of climate action. Case studies from the WHO pilot project on health and climate change urban profiles will be presented to highlight examples of urban initiatives to address climate change through the lens of social equity, health and wellbeing.

The second presentation will talk about age-friendly environments as better places in which to grow, live, work, play and age, and discuss the role of designers and urban planners in ensuring that communities foster the abilities of older people and their families. It will also showcase some case studies and examples from the work of the members and affiliates of the World Health Organization's Global Network for Age-Friendly Cities and Communities, whose mission is to stimulate and enable cities and communities around the world to become increasingly age-friendly.

The third presentation will present the key action points of the most recent WHO Global Action Plan on Physical Activity, 2018-2030, focusing on its Policy Action 5 – Creating and Maintaining Safe Environments. It will also discuss how the WHO is supporting countries implementing guidelines and practical toolkits for physical activity, and providing technical support to assess the return on investment in areas such as walking and cycling, by providing training using the WHO tool on health and economic assessments (HEAT) for walking and cycling.

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Inclusivity and diversity and the climate-smart city

Planetary health impacts and climate change will and is affecting humans, animals and the natural world everywhere. No one will be left unscathed, but inequalities in society mean that people are affected in different ways and at different scales. Low-income communities and the Global South are increasingly experiencing the worst impacts of climate change despite being the least responsible.

But as wildfires rage across continental Europe, richer countries are quickly realising the catastrophic consequences of decades of failure to acknowledge climate change and act on it. Even in these countries, the impact of weather extremes will depend on factors such as age, health, gender, ethnicity, socio-economic status, as well as geography and place. In short, the wealthier you are, the better protected you are, while poorer people, just as during the pandemic, are more exposed at home and at work.

Our expert panel will explore how to address and understand the planetary health and climate change challenge from the perspective of designing cities and communities that are more inclusive, more diverse, and healthier for all.

Research evidence translated into practice: Using the Australian Urban Observatory to design healthier and more liveable cities across Australia

Melanie Davern
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The Australian Urban Observatory (auo.org.au) is a digital liveability planning platform measuring and mapping liveability at the municipal, suburb and neighbourhood level across the 21 largest cities of Australia. All liveability indicators included in the AUO have been conceived through a social-determinants-of-health lens and combine public health, urban planning and geospatial data science to communicate and translate research evidence into policy, identify areas of inequity, and direct future planning and policy action.

The AUO digital platform has been developed at RMIT University using customised open-source software to measure, map and monitor liveability in Australian cities to the local neighbourhood level. The platform is built on a framework and an associated suite of local area liveability indicators that assess liveability in 2018 and 2021. Demographic indicators were also planned for release mid-2022, following publication of the Australian Bureau of Statistics Census. Inclusion of detailed spatial liveability indicators and demographic indicators provides critical information on place and the people who live there, and are essential for the development of city planning to improve public health.

This presentation will provide an overview of the AUO, including how it is being used by local, state and federal governments across Australia to inform healthy city planning. It will include case study examples of how liveability indicators are being used in practice to inform policies, capacity building tools, research tools, and resources developed to work collaboratively and support city planning practitioners.

Covid-19 has been a magnifier of inequity across many international cities, including the major cities of Australia. Communicating inequities and advocating for future policy and planning changes that support health and wellbeing for all requires new technology and methods to advocate for health promotion and embed research evidence in policy and planning. The AUO provides a model of how to share research evidence using liveability indicators and is a powerful tool to support community engagement and support integrated planning for improved public health outcomes – particularly with policymakers and planners who might not consider themselves public health change agents.

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Community-focused technology: The next step in urban placemaking and health interventions

This session explores the health, social, and socio-economic factors linked to implementing a multi-faceted obesity and employment initiative in towns in the UK and France as part of ASPIRE, an EU-funded project. ASPIRE is working in Boscombe, Aylesham, and Medway in the UK, and Abbeville, Wimereux, Lens, and Ham in France.

C3 uses CHESS (Community Health Engagement Survey Solutions), a mobile app that allows communities to investigate their health in relation to their built environment. Community members use CHESS to collect data on local assets – such as transport links, spaces for physical activity, and places to eat or shop for food – that make an area conducive to good health. Data collected are then discussed at an insight session, where environment-focused interventions are designed. These interventions are made by the community for the community, and place social cohesion, accessibility and affordability at the forefront of improving health outcomes. In Wimereux, for example, an app is being developed to bring the community together for activities linked to wellbeing, such as creating a new hiking trail; in the UK, free healthy cooking classes are being held, while revitalised green spaces are being used to promote community events and physical activity.

There have been challenges; occasionally local politics and cultural differences have caused delays to implementation. Moreover, Covid-19 made engaging community members difficult, with a reliance on conferencing platforms to collaborate. However, preliminary results from Boscombe and Wimereux indicate CHESS and ASPIRE have had a positive effect on communities. Community members surveyed in the Boscombe area, 12 months after the initial CHESS walk, had high levels of participation, especially in growing and green-space interventions and community events, showcasing an appetite for health interventions that also promote social cohesion and environmentalism.

In this session, we will present both qualitative and quantitative results linked to the implementation of interventions in these two sites. The ability of CHESS to combine data collection on built environments and mobile technology with community engagement has far-reaching implications for redesigning urban areas globally with the aim to make communities healthier.

Digital placemaking for health and wellbeing in North East London

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North East London's population is projected to grow significantly over the coming years, with Barking and Dagenham, Tower Hamlets, and Newham three of the fastest-growing boroughs in the UK. This research explores how innovative place-based digital technologies can support better health and wellbeing outcomes for North East London's diverse communities. Insights will be embedded into the healthcare infrastructure planning processes across NHS NEL and inform strategies for the neighbouring public realm.

Adding digital technologies to the ways that places are experienced and understood can lead to exclusion, unless digital products and services are designed holistically, thoughtfully and with diverse stakeholder communities. As such, this research involves local residents, patients, carers, and NHS and local authority staff.

A mixed-methods approach was adopted. The first stage studies the sites of investigation through the lenses of 'people, place, technology and data'. Data are collected through literary critique, online surveys, interviews, and observations of three key locations. In stage two, stakeholder communities explore the futures of geolocated healthcare and wellbeing through online and onsite workshops, an informal event at London's #BikeFest 2022, individual and group interviews, engagement in a virtual environment, and a Tweet-Up. The final stage reports on the project and provides recommendations for future research and practice.

The study reveals the willingness and ability of diverse communities to explore digital placemaking for health and wellbeing. It highlights the need to formalise closer ties between the NHS and local authorities to streamline research workflows and implement future digital products and services. The study has also informed the design of new resources to support digital placemaking.

In conclusion, this research sets the scene for what future inclusive geolocated healthcare might be, and how it can be achieved in North East London. Critically, consideration of residents' emerging digital experiences of place needs to be embedded early in NHS healthcare infrastructure planning processes, and in the surrounding public realm. Ethical policies also need to be developed to guide the future design of digital placemaking for health and wellbeing.

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The future of equitable and inclusive design in the workplace

Workplace stress has a significant impact on health and productivity in normal times – but it has become a larger challenge in the current climate as people grapple with the effects of the pandemic and general uncertainty. As organisations evolve to new workplace models for remote and in-office work, the wellbeing and engagement of their employees remain critical to their sustained success. This moment presents an opportunity to reimagine a better, more inclusive workplace – not just safer but also less stressful and more productive.

Neuroscience research provides crucial insights into stress, engagement and productivity. Humans are social creatures who find safety in relationships and nature, and are impacted by their environments in ways both large and small. This has important implications for how to design workplaces in an era of stress and uncertainty, suggesting new approaches that better respond to fundamental human needs.

There is an increasing focus on healthy buildings, and the many benefits to productivity and wellbeing that result from improved air quality, ventilation, noise, and other indoor variables. Additionally, research from NBBJ's Applied Research Fellowship Programme with developmental molecular biologist Dr John Medina shows that healthy individuals are more engaged and empowered, which in turn has a direct impact on their creativity, productivity, and overall performance at work.

As architects, we must address critical issues from environmental impact and human health to urban integration and social inclusivity. Providing space for creative individuals and teams is essential, and those spaces must allow for multi-faceted workforces.

Competing with the best thinking starts with offering environments to attract the best thinkers and provoke the best thoughts. Creative employees are not only more effective workers but they also tend to be happier people. Employees with creative agency report higher productivity and fulfilment, as well as higher retention rates. As an innately human characteristic shared by cultures around the world, creativity also fosters an inclusive mindset. Like the "yes, and" of improv, it supports thinking that is open to new and different perspectives. An environment that encourages these benefits is one worth getting right.

Surviving and thriving in the workplace

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As designers, it's our job to create workplaces where businesses and occupants can survive and thrive. At the heart of effective workplaces lies connectivity. So how do we design workplaces mindfully so that they're set up to connect people so they can thrive?

Together, the presenters will navigate workplace design through their interdisciplinary approach to integrated design and how that can foster connectivity for thriving in the workplace. They will discuss key areas for connectivity in workplace design and share examples of projects and applications to support their approach.

Successful workplaces should create connectivity across three areas: the people; the brand; and the planet.

The people: Now more than ever, people want to bust out of this pandemic and connect. Creating places of positive connectivity among peers and like-minded people can invigorate, inspire, and energise. We address these needs in many ways, through focusing on how to create healthy buildings, a diverse workplace accessible to all, and one that brings joy. Lighting creates the mood, signalling our reactions to spaces without us knowing. It supports invigorated social space and quiet 'heads-down' space, and can support engagement and interaction.

The brand: Every space should tell a story and be an experience in and of itself. It should be readily apparent throughout the space what a company is about, what is important to it, and what it reflects into the world. How does the design of the space impart the ethos of the brand to the occupants? The story of the brand can be told though the materiality, textures, and feel of the space.

The planet: People don't just want to connect with other people; they want to connect to the planet, the natural environment, and the outdoors. Evolving metrics such as Fitwel, LEED and the WELL Building Standard touch on aspects of quality design for the human experience. How do we integrate these into our workplace designs?

Project examples will be explored, such as the LEED-certified Denver Water campus, with its approach to water reuse; tech companies such as Twitter and Google; and other projects that focus on inclusivity and wellness.

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Making light work: Human-centred lighting for people, for planet and for profit

You will spend less than one hour outside today. That's less than the UN minimum for people locked up in prison.

For large parts of the year, especially in the northern hemisphere, people rely almost entirely on artificial light, not only to see but to control a powerful cascade of 'non-visual' physiological functions that we are only just beginning to understand. The average person sitting in an office receives around 2 per cent of the light levels they need to trigger that non-visual response that your body and brain so desperately need. If we consider work settings where shift work, high anxiety and extreme conditions are common, the poverty of the lighting environment is even more striking.

New evidence is emerging of just how damaging that twilight existence really is, not only for long-term health and wellbeing but for more immediate effects. It's also becoming clear that neurodiverse and older people are particularly vulnerable to those effects. Healthy lighting can improve recruitment, retention, mood, memory and academic performance, and quality of sleep – and it can quite literally save lives.

Lighting has traditionally been purchased as a fixed basic 'service'. A drive to reduce electricity use has led to wholesale 'like for like' replacement of older technologies with LED products, which appear to be cheaper and more energy-efficient. However, this is leading to unintended consequences for environmental, social and governance performance, including long-term reputational and financial risk for organisations that fail to ask difficult questions of those who design, supply and maintain lighting. For example, raw materials for LED production are concentrated in geopolitically sensitive countries in Africa and Asia, artificial light at night is contributing to a collapse in insect and bird populations, and growing evidence of the heath impacts of inadequate lighting leaves employers open to legal claims from workers.

This presentation will share how a more intelligent and integrated approach to lighting can help organisations create healthier, happier and more inclusive places to work, deliver environmental, social and governance targets, mitigate long-term risk, and perhaps even come out of the shadows to become their brightest USP.

The post-Covid "new normal" hybrid workplace: Could this improve our cities, suburbs, commute and mental health while progressing SDGs?

Gerry Tierney (USA)
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Seventy-two per cent of the 21,000 adults surveyed by Ipsos in 2020 for the World Economic Forum preferred significant change rather than a return to the pre-Covid normal, with 86 per cent agreeing with the statement, "I want the world to change significantly and become more sustainable and equitable rather than returning to how it was before Covid-19". Surveys consistently show that employees are choosing to stay away from their downtown or suburban office park workspaces for at least 40 per cent of their work week. The potential exists for positive changes with significant impact on how and where we work and live.

Instead of looking at working from home in zero-sum terms, we need to take a holistic account of our cities and suburbs to create a balanced, sustainable and equitable live-work environment. The drivers of land-use policies that created segregated work and residential zoning, and the resulting commute, by and large no longer exist. We have, in effect, brought the factory smokestack into our spare bedroom with what would appear to be limited negative impacts. However, over the long haul, the spare bedroom is neither a viable or desirable way to address the concept of remote work, so we need to ask if such accommodations can be provided within a short walk or bike ride from our home?

The potential exists for the creation of new bespoke workspaces featuring high-quality internet and AV conferencing infrastructure, located perhaps in the commercial strip of early 20th-century streetcar suburbs, or the village around which post-war suburbs grew. Ideally, these places should be easy to access on foot or by bicycle, with convenient transit connections to downtown. By uncoupling the downtown workplace from the dormitory suburb, there could be reductions to the commute pattern with resultant benefits in lower greenhouse gases.

Reconceptualised suburban cores could see a contemporaneous flourishing of cultural activity that would erase the dormitory aspects of these locales, while bringing in attributes that we assign to urbanism, such as density sufficient to allow for both the social and land-use heterogeneity that results in vibrancy, social acceptance and cultural variety.

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Unworking: The reinvention of the modern office

Over the past 100 years, the office has dominated working life. Now it must be reinvented as part of a flexible future of work. A new book by the co-founders of Worktech explains how and why.

In the aftermath of the global pandemic, as organisations around the world seek to re-evaluate the purpose of the workplace and establish more flexible ways of working, the big question everyone is asking is: what happens next to the office within the changing picture of the future of work?

A major new book by Philip Ross and Jeremy Myerson, co-founders of the Worktech conference series and Worktech Academy, seeks to shed new light on a subject of universal interest. Based on 20 years of research by the authors with the Worktech community, *Unworking: The Reinvention of The Modern Office* is published in August 2022 by Reaktion Books, and distributed in the US by the University of Chicago Press.

It offers a panoramic view of the development of the modern office over the past 100 years and presents a manifesto for 'unworking' – unlearning old habits and rituals established for an outdated office, and creating new ones fit for an age of digital technology, design innovation and diverse workforces.

The book opens with the Easter Day parade on Fifth Avenue in New York in 1925, with the modern industrial office in full swing, and it ends in a fast-changing working world of software, biophilic design, data analytics, digital twins, elastic space, and compact cities.

The reader is taken on a journey through the ten forces at play that are reshaping the working landscape: experience; organisation; urbanism; space; technology; designing; diversity; wellbeing; hybridity; and demography.

As the authors explain: "*Unworking* explores how, over the past 100 years, the modern office has been integral to the development of modern society. It has shaped the architecture of our cities, the behaviour of our organisations, and the everyday movements of millions of people. Now, as hybrid working gathers pace, new working patterns and ideas are emerging. This book aims to bring these new concepts and ways of thinking to life."

A vision for the city in 2050 – healthy, attractive, accessible, adaptable and for all

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WPI Economics

This report presents a vision for our cities in 2050. The vision addresses the major challenges that cities are facing, which pose significant threats to the planet, human progress and wellbeing These interlinked challenges are climate change; economic and technological change; inequity and social justice; and health.

Underpinning our vision to address these challenges is basing cities firmly around the needs of people. City residents would no longer be a secondary consideration to infrastructure, buildings or land use, with the conviction that the city's key role is to foster better health.

The report argues cities are a major influence on the mental, physical and social health of people. Cities therefore should adopt the "health-first principle". But the health-first principle can only be supported by a new framework for city transformation – making the urban economy and built environment attractive, accessible, adaptive, resilient and for all.

The framework was informed by contributions from government, academia, think tanks and industry, and populated with policy proposals to turn the vision into reality. It follows a logical sequence:

- Cities need to be attractive to people by offering economic opportunity alongside a cultural and entertainment experience. An example enabling policy is free lifelong learning provision for every resident.
- To be attractive necessitates cities to be accessible, where efficient travel and availability of services and opportunities can increase wellbeing and productivity. An example enabling policy is everywhere in the city region being accessible within 30-45 minutes, with all major needs accessible within a 15-20 minute neighbourhood area.
- Cities also need to be resilient and adaptive, responding to constant economic, social and environmental change. An example enabling policy is encouraging low-carbon conversion and adoption of whole-life carbon assessment for major real estate projects.
- Underpinning all of this is ensuring that cities are for all, meaning cities leave no one behind, and underrepresented and marginalised groups have as much a stake in improving the urban economy and built environment as anybody else. An example enabling policy is participatory budgeting and participatory design as a key part of city planning / governance.

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Making cities healthier through approaches to inclusive leadership

Black people in the London boroughs of Lambeth and Southwark, and across the UK, are disproportionately affected by poor health outcomes. Together with Do It Now Now and Inclusive Boards, we're testing how a step-change in health outcomes for communities experiencing the worst inequalities could be achieved through professional development for Black leaders, while also supporting organisations to foster the culture, practices and policies to enable those leaders to flourish.

This programme recognises that often, the culture, practices and policies in place in organisations mean that Black talent is overlooked or fails to flourish and leaves.

Inclusive Boards recruited 20 Black leaders passionate about improving health outcomes and with strong links to Lambeth and Southwark. Through workshops, masterclasses and mentoring, Inclusive Boards supports participants to develop the necessary skills to thrive in leadership roles that affect health. Each participant spends a year on a board, committee or advisory group in an organisation that influences health outcomes in the boroughs.

Inclusive Boards recruited 20 organisations across different sectors in Lambeth and Southwark who share a commitment to addressing equity and inclusion. Each organisation is supported to undertake a baseline assessment to develop understanding and work towards improved outcomes for Black communities through enhancing Black leadership. We partnered with Do It Now Now to provide training, direction and one-to-one support for organisations' senior leadership teams, and to facilitate peer-to-peer learning. Participants are encouraged to openly share their learning.

Evaluation findings will be confirmed in the autumn. We expect participating organisations to gain a better understanding of the ethnically and culturally diverse populations in cities so they are better able to deliver services and projects that serve the total population, thereby reducing health inequalities. And we anticipate that Black leaders who participate in the leadership programme will grow into an expert leadership group that have deep knowledge of place and actions that promote good health outcomes.

The programme seeks to show how significant action on equity and inclusion can be achieved for organisations of varying types and sizes, and that such work enhances organisational culture, and leads to greater effectiveness and better health outcomes.

Walking for everyone

Walking is intrinsically tied to the key challenges facing the planet today – it forms part of nearly every journey we make, and it's a resilient and well-used form of transport, relied upon during periods of rapid change. Yet, this importance is often overlooked and, combined with the lack of relevant data, it means that policy decisions, investment in the built environment, and designs may not reflect the most inclusive solution for walking.

Over the past few years, publications from Arup and our research partners have highlighted the need for a human-focused approach to the design of the built environment. Taking inspiration from the 'Cities alive: Towards a walking world' and subsequent 'Cycling for everyone' publications, 'Walking for everyone' presents research and findings from the UK and globally on how decisions around walking affect the demographic groups most likely to be most disadvantaged in their lives. This includes women, older people, disabled people, people from ethnic minorities, religion, the LGBTQ+ community, people at risk of multiple deprivation, and children. The findings form the basis from which we're developing guidance on how we can, and should, make better planning decisions for everyone.

The project is a partnership between Arup, Living Streets and Sustrans, which have worked together across the main stages of the project: an initial review of existing literature to identify barriers to walking and any gaps in literature; and a subsequent stage of interviews and a workshop – attended mainly not by transport professionals but by people representing groups that are often excluded – to gather additional information on barriers and potential solutions that otherwise may be overlooked.

Using this information, our report (to be published in March 2022) will support more inclusive and representative governance decisions related to walking, improve guidance and design decisions related to the built environment, and provide better support and resources to enable people to walk.

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Unpacking inclusivity

The pandemic has upended our common perceptions of what it means to build inclusive urban spaces. As people re-engage with their communities via shared outdoor spaces, we're forced to reconsider how we design equitable cities that prioritise the public realm to promote inclusivity for all. How can we design public urban spaces that make minorities and historically underrepresented segments of society feel included in the built environment?

Equitable spaces are accessible, welcoming, and inclusive spaces that foster a sense of belonging, recognition, and identity for the people for whom they are designed. Inclusive design requires us to build to strengthen community and provide opportunity to enhance the culture of place or foster new culture. For this to be successful, we require engagement with communities, where we hear their stories and empower them to build socially rich environments that are meaningful, reflect their values, and are authentic to place.

We'll re-examine the meaning of inclusivity as it relates to processes and best-practice planning principles, to better understand what it means to build truly inclusive city spaces. We'll consider:

- how inclusive design begins with inclusive conversations from the outset of every project;
- the power of community engagement throughout the planning and design process to ensure the spaces we build reflect the people for whom we build;
- how we can design more inclusive spaces by shifting our process to prioritise the public realm;
- replace the notion of "placemaking" with "placekeeping" to ensure we incorporate the history, story and culture of the place; and
- place examples of instances where compelling community spaces were designed for the people who use them and the immediate context.

The onus is on us to engage in collaborative design and development processes that prioritise community engagement and the public realm to give a louder voice to underrepresented communities. We need to create spaces that are more individual than what we typically see or what policy dictates, to encourage people of different cultures to gather and share stories, and build understanding, respect and knowledge for each other.

Inclusive cities are resilient cities: Evidencing the role of inclusive design in urban futures

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While cities continue to recover from the impacts of the Covid-19 pandemic, new and continued crises are on the horizon and the need for future resilience is stronger than ever. The pandemic demonstrated how disadvantaged groups are most affected by crises, also evidenced in the disproportionate impacts of climate change on disabled people. To deliver on human rights targets set out in the 2030 Agenda and create a better future for all, sustainable and resilient urban futures are not possible without inclusion being part of the agenda.

To shape that future, we require strategies, tools and evidence to design equitable cities: it can be found in inclusive design. This paper presents evidence on the role of inclusive design in sustainable urban development from a three-year research programme delivered during the pandemic in the Global South. Semi-structured interviews, photo diaries, co-design workshops and stakeholder engagement were conducted to develop case studies in Freetown, Sierra Leone; Nairobi, Kenya; Surakarta, Indonesia; Ulaanbaatar, Mongolia; and Varanasi, India. A research framework of 'people, policy and practice' was employed to understand the experiences and aspirations of people with disabilities living in these cities and identify the challenges and opportunities for inclusive design, including the legislative context.

Results found that as much as the physical design of cities and infrastructure is vital, so are processes of inclusion and participation that allow a more inclusive culture to thrive. More inclusive environments will be found where disabled people are active agents in urban development – in making decisions, designing, and planning. Urban design and planning should integrate informal settlements and community-led inclusive design must be supported. Key challenges found include a lack of intersectional approaches; poor implementation processes; lack of resources and accountability; low public awareness; poor maintenance or sustainability; and a need for leadership across city scales. Aspirations included better urban mobility; a more accessible built environment; enabling assistive technologies and infrastructure; and inclusive participation in urban life and culture.

This paper will conclude with identifying shared challenges and opportunities to support other cities to implement good inclusive design practices and implications for current and future global challenges.

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Respond: A novel model for delivering equitable healthcare to asylum-seekers in the UK

In 2021, an unprecedented number of individuals came to the UK to claim asylum. The impact of the pandemic compounded pre-existing delays to processing of asylum claims. This delay, combined with lack of long-term accommodation, resulted in placement of many families and individuals in 'contingency accommodation' around the country. Asylum-seekers are known to be commonly affected by complex and intergenerational needs, affecting mental, physical and social health, and may have experienced limited access to prior healthcare. This additional and complex demand during the pandemic made it challenging to provide an equitable and accessible service for this population.

To address these problems, our team designed an integrated, community-based model of delivering care for asylum-seekers called 'Respond'. This model is designed to overcome barriers in access to healthcare for asylum-seekers, provide a wrap-around, holistic and trauma-informed service, and deliver equitable healthcare for an underserved group. We support GP registration, screen for a range of physical and mental health needs, including communicable and non-communicable diseases, refer and signpost to key services, and provide a patient-held record of our assessment. We work with a range of specialists with expertise in migrant and refugee health. We were commissioned by North Central London Clinical Commissioning Group in July to deliver services across Barnet, Camden and Islington.

We've assessed more than 500 people, in family groups and as individuals, to date. We've learnt the importance of partnerships and the benefits of integrated care across traditional boundaries: primary and secondary care; adult medicine and paediatrics; and health and social care. We've learnt the importance of bringing healthcare to the community, of understanding where people live, and their experiences in the design of an equitable service.

In future, from a clinical perspective, we'll be upscaling our service, strengthening our partnerships, and bringing in peer advocates to work with us in the implementation of our service. From an academic perspective, we'll be developing the largest dataset describing the health needs of asylum-seekers in the UK, conducting in-depth qualitative work and economic evaluation to assess for acceptability and cost-effectiveness. Our work is designed to address health inequalities through equitable service delivery, partnership across traditional system divides, digital innovation, and cutting-edge research, and we hope this could provide a national standard for the care of asylum-seekers and other under-served groups.

Access Navigators: Taking the mystery out of accessibility

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Twenty-six per cent of the world population lives with a disability, and half of these people are experiencing mobility impairments. What does this mean for the health of these people, and can they maintain a connection to their community?

This is the basic premise of an initiative begun by architects in Portsmouth, New Hampshire, USA. Architect Todd Hanson, founder of Access Navigators, had his perspective on the built environment change dramatically when he was diagnosed with a progressive neuro-muscular disease. With the help of colleagues, he began a mapping initiative, collecting data about accessible accommodations in restaurants and attractions, and populating maps with this information. These web-based maps give confidence to visitors, family members and people with mobility challenges, allowing them to choose destinations that are convenient and accessible. The idea received a groundswell of support, and the initiative became a non-profit organisation.

Reliable accessibility information about communities empowers people to thrive and remain connected to their neighbourhoods. Because variation in human ability affects most of us for some part of our lives, it's in the best interests of all of us to be as accommodating as possible. Access Navigators' mission is to raise awareness where it's lacking, inspire a spirit of inclusiveness, and influence other communities to do the same throughout New England and across the globe.

To allow the organisation to grow geographically, Access Navigators teaches university-level courses on community accessibility, training nursing and occupational therapy students to assess the key attributes needed for businesses to be accessible and welcoming to individuals of all abilities. Students have spread across the region, mapping new cities and adding them to the online database.

Access Navigators has become a leader in advocacy for people impacted by disabilities by speaking about the impact of accessibility on people and the economy, mentoring students and volunteers as advocates and data collectors, and continuing to look for new ways to keep people impacted by disabilities connected to their communities.

This talk will offer insights and details on how attendees can be part of these efforts, making inclusive communities a global norm rather than an exception.

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Scale jumping: Aligning building-level and community-level strategies for health equity and climate change resilience

The pandemic has highlighted the complex intersection of city and building for health, wellbeing, equity and resilience.

Indoor and outdoor environmental conditions such as air quality have been shown to impact both chronic and infectious respiratory disease. So-called 'nice to have' amenities, such as access to nature in and near buildings, have proven to play a key role in real estate value and mental health and wellbeing, with poor-quality office buildings left empty of workers not willing to go back to marginal environmental conditions, and urban parks and green spaces straining under increased use.

Adding to these factors are pressures to increase the transparency and rigour of environmental, social and governance (ESG) reporting for organisations, the increasingly important role that urban nature plays in climate change adaptation and resilience, and the recognition that all of these factors weigh heavier on marginalised populations. The pressure to get it right can be overwhelming, particularly when building-level actions do not always align with city-level actions, and neither align well with classic ESG reporting.

In this interactive discussion, we'll showcase the promise of a multi-scaled and collaborative approach to healthier, more resilient, and more equitable buildings and communities. Drawing on case studies in the City of Malmo, this session examines how building-level interventions focusing on air quality, biophilia and equity through the WELL Building Standard (WELL) can align with and support neighbourhood-level urban acupuncture interventions with similar goals piloted by the Gehl Institute. The session also examines the challenges and opportunities of using building- and community-level interventions as part of ESG reporting. Throughout the session the impact of different interventions on health equity and placemaking will be examined at a building and community scale.

A neighbourhood in a building: Japanese perspectives to reduce social isolation in high density

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Tokyo is the paradigma of a city growing denser over time (Ashihara; 1992), and has been a pioneer in exploring new solutions for high-density housing (Boontharm and Radovic; 2012).

In recent years, social isolation has rapidly increased owing to densification and lifestyle changes (Maki et al.; 2019). Isolation results in a quantitative and qualitative lack of social contacts (Delisle; 1988), and an absence of mutually enriching relationships with others (Clifford; 2018).

At a time when the risks associated with social isolation are growing in global cities (Adli et al.; 2017), especially in the face of Covid-19 (Yamada et al.; 2021), it's vital to explore architectural solutions for contemporary co-habitation, in order to better understand the role that architecture should play in promoting social interactions in high-density areas. The objective is to understand which architectural forms target development towards densification while integrating strategies to reduce social isolation. These practices have the potential to provide better urban resilience and improve mental health, from Tokyo to global metropolises.

Our research, consulting articles, site visits, videos, exhibitions and books, led us to four projects that share the same urban challenges in high-density residential neighbourhoods in Tokyo. These were selected for their recent construction (2009-2014) and their location in high-density residential monofunctional neighbourhoods. The architects of these projects affirmed their intention to increase social interaction between residents through an innovative layout. The projects are: Apartment with a small restaurant (Naka Architect' Studio; 2014); Dragon Village (Eureka; 2013); House for seven people (Mio Tsuneyama/mnm; 2013); and Yokohama Apartment (Osumu Nishida+Erika Nakagawa; 2009).

Typo-morphological analysis has been developed to reveal the physical and spatial structure of the projects, based on detailed classification by types of the elements that shape urban form: open spaces, buildings or streets.

Analysis reveals that each project integrates urban spaces (e.g. loggia, verandas, alleys) into the building's design. These urban types aim to facilitate interaction and act as catalysts for daily encounters and occasional events. Even if they often have an interstitial character, they act at multiple scales to strengthen the link between social space and personal space, and between building and neighbourhood.

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Healthy ageing and diminishing health inequalities through housing co-operatives for seniors

On average, Dutch residents with a low socio-economic status experience health problems 19 years earlier and die seven years earlier. Many seniors prefer to stay in their own neighbourhood but many houses are unsuitable. Often, moving is also difficult, because of a shortage of houses. An increasing number of seniors wish to grow old with like-minded others. As the housing supply does not align with their needs, some of them take the initiative to realise their own residential complex, e.g. through a housing co-operative.

Contrary to some other European countries, housing co-operatives are relatively new in the Netherlands. Meanwhile, interest for this phenomenon increases, partly because of the assumption that when seniors look after each other, healthcare costs may decrease. However, groups of seniors willing to realise their own residential complex experience large bottlenecks and often their initiatives fail.

Nevertheless, some initiatives do succeed, such as Ebbingehof in Groningen, a residential complex started by a group of seniors that opened its doors in 2021. We investigated their wishes and needs concerning the building and its environment, which bottlenecks they experienced and which factors were helpful. Data were collected via in-depth interviews, a survey, and an expert meeting.

The vision of Ebbingehof targets like-minded seniors who, irrespective of their income, co-habit, meet each other, and look after each other; new residents must endorse this vision. Ebbingehof is within walking distance of the inner city and consists of social housing as well as more expensive rental apartments, and a communal room, courtyard and rooftop. The building is owned by a foundation set up by the co-operative initiators.

To realise this residential complex it was important that the municipality was open to the ideas of the initiators. The fact that the initiators had a large network and sufficient time and money also turned out to be important success factors. Therefore, our further research will explore how such an initiative can also be made achievable for initiators with a middle income.

Design for understanding – on the example of descriptions of training exercises for the elderly

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The DenkSportWeg project has transformed indoor training routines, accompanied by trainers, into an outdoor education/training experience, used independently by elderly people and generating a health activity hub for the surrounding community.

The Catholic Education Association Tirol (KBW) provides adult education in Tirol, Austria. One of its programmes, SelbA, offers regular training workshops for elderly people to promote physical and mental mobility among participants, aiming to help the elderly lead a self-determined life.

The KBW approached motasdesign because in addition to its indoor trainings, it wanted exercises to take place outdoors and be done independently without trainers. Together with KBW, trainers, the city of Innsbruck and users, the training system, its exercises, and the process were all analysed. Ideas were born and changes made to achieve the goals. Results were as follows:

- A sports parkour similar to a fitness trail was developed, but with exercises that combine both physical and mental exercise. The trail was developed in such a way that it's possible for municipalities to produce and assemble most of the equipment themselves. The trail has become a hub for many organisations to plan and carry out outdoor learning and training activities.
- The trail is tailor-made for elderly people, enabling those in the immediate vicinity of their homes to perform exercises regularly and independently. It's now used by many generations.
- All exercises were analysed, with oral descriptions transformed into textual and illustrative descriptions, and extensively tested with users to ensure they were understandable.

Among the challenges, we had to:

- transform verbal explanations into clear descriptions on signs to ensure explanations are understood without the help of a trainer;
- examine the self-image of older people to develop illustrations in which people recognise themselves and which help to ensure that exercises are accepted – clothing and hairstyle played a crucial role; and
- consider the interplay of on-site exercises and motivation to "take something home" and "come back", so that sustainable behavioural changes are possible.

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Older pedestrians' physiological reactions are indicative of stressful and non-stressful urban built environment conditions

While many cities and communities are committed to promoting active ageing, studies have reported a decline in older adults' mobility indices, such as time spent outdoors, trip frequency, and trip distance.

To promote mobility, it's not enough to target only the individual because environmental barriers also limit mobility among older adults. An environmental barrier is a relative concept, dependent on the interaction between an individual's capability and environmental demand. When a person's capability meets environmental demand, they can achieve mobility. On the other hand, they experience stress and/or their mobility is limited. As functional capacity declines with ageing, older adults can experience stress in the built environment, potentially leading to mobility limitation.

Current efforts to detect such stressful environmental conditions are inefficient and are not human-centred. This research examines whether the physiological responses (measured using wearable sensors) among older adults vary by stress and non-stress environmental conditions. The physiological responses (heart rate variability and electrodermal activity) and perceived stress among ten older adults were measured while walking along an urban path. Differences in participants' physiological responses (individual and collective) and individual differences (including body mass index and gender) under perceived stressful and non-stressful path conditions were tested using Wilcoxon signed-rank. A test for clustering of physiological responses was conducted among all participants and associated perceived stress and non-stress path conditions. Spatio-temporal analysis was conducted to detect variation in physiological responses within the stress and non-stress path conditions.

Results indicated that, on average, participants experienced a statistically significant higher physiological response to environmental conditions perceived as non-stress than environmental conditions perceived as stress. Women experienced a significantly higher physiological response to non-stress environmental conditions than men. Stressful environmental conditions pose high demand to older adults with a body mass index above 24.9. Although personal factors and time-dependent environmental factors influence the effectiveness of wearable physiological sensing, such devices can complement existing built environment assessment approaches to improve active ageing and age-friendly city and community design.

Factors associated with building resiliency in older people: A cross-sectional mixed-method study of Malaysians

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Research on healthy ageing has grown in recent years. Traditionally ageing studies focused more on the physical and environmental aspects. However, currently there is a paradigm shift within gerontology towards achieving positive outlook of seniors, with psychosocial wellbeing as an important aspect. This holistic move aims to alleviate the growing problem faced by the ageing population globally.

Physical and psychological resilience among older persons is associated with positive outcome, in diminishing frailty rate, and improvement in cognitive functions. This can lead to longevity and lower depression rate. Building resilience is the way to cope with stressors experienced by seniors. Hence, this study aimed to adopt a cognitive behavioural therapy approach with a cross-sectional mixed method, using both quantitative (online surveys) and qualitative (focus group interviews) methods of data collection and analysis, to examine the in-depth factors related to resilience among older persons in Malaysia.

During phase one of the study, 223 participants (mean age = 51.63; S.D. = 9.078; 154 female) completed an online survey measuring financing planning, psychological wellbeing, independent living skills, social and networking support, resiliency, and quality of life experience. Our results revealed that greater participation in social activities, believing in one's ability to cope with ageing stressors, and having a higher financial planning literacy resulted in lower depression, higher psychological wellbeing, and greater quality of life. In phase two, focus group interviews were conducted with 42 older persons (mean age = 67.3; S.D. = 3.5; 28 female). The results reveal six important themes as expressed by the interviewees: "I'm not alone"; self-efficacy for resilience building; living here and now; "it's all in my mind"; companionship; and active ageing.

The present study provided a useful overview of the factors associated with building resilience among older Malaysians. A resilient toolkit and psycho-education guidebook for the older person were drafted. Social workers, counsellors, psychologists, and allied health educators will also benefit from the toolkit, which could facilitate the psychosocial care of older persons.

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Child-friendly neighbourhoods

Urbanisation and the pandemic have changed our perception and need for public spaces, so it's vital that these environments become more accessible, versatile and inclusive. At HLM, we believe that child-friendly environments should be embedded in all the places, neighbourhoods, towns and cities we design. If children are not factored into the design, then they are, in effect, 'designed out'.

For many of us, our childhoods are filled with memories of freedom and adventure within the landscape. They provided a place for us to imagine, be creative, and test our young minds and bodies. We believe it's fundamental to offer this freedom to children and families within the neighbourhoods we plan and design. And the importance of play is essential. The cognitive, physical, social, and emotional wellbeing of children is enhanced, allowing them to use their creativity. It also helps them develop their imagination, dexterity, and physical, cognitive and emotional strength.

Despite clear guidance on good design and minimum play requirements for new residential developments, we're consistently seeing schemes that provide the bare minimum, owing to cost constraints, misconceptions of what play can be, and associated maintenance issues. By designing in open space and green infrastructure, we offer natural environments that fulfil healthy lifestyles and economic sustainability. Integrating a child-friendly approach to landscape and urban design contributes to creating public spaces that work better for the whole community.

Design interventions, such as community and social spaces, learning landscapes, pedestrian-friendly and playable streets, and child-friendly travel routes, allow for playability, connectivity and foster a sense of belonging. By combining the natural environment with varied play, children begin to understand, engage with and respect their environment. It provides fun and helps reinforce a child's understanding of nature by combining natural materials within biodiverse green space.

For child-friendly neighbourhoods to fulfil these principles, a balance between nature, playful spaces, and quality design should provide the infrastructure. As new projects take shape, we look to provide dynamic, resilient, sustainable open spaces, and play for children and families. These integrated aspects allow freedom and adventure for every child to experience and make lasting childhood memories.

Co-designing a greener, fairer, and stronger community for children's wellbeing

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The Covid-19 pandemic responses, including social distancing, school closures and the prohibition on outdoor activities, have accentuated social and spatial inequalities, particularly for children and young people (CYP). The experiences of children and young people living in overcrowded households, in high-rise flats, and those with no access to gardens and limited/no access to the internet are evidently not the same as children in a spacious household with access to computers and technology, a private garden, and a high-quality park. Evidence suggests there will be long-term detrimental effects of the pandemic on CYP's health and wellbeing (Cowie & Myers; 2020).

Communities will need a recovery plan for coming together and for regenerating outdoor sociability and green space access for children and young people. Cardiff University, in collaboration with the child-friendly city team of Cardiff Council, Community Gateway and Grangetown Youth Forum, is working with children and young people from Grangetown, a community in the centre of Cardiff, to co-produce a greener, fairer, child-friendly recovery plan through workshops. Activities are conducted in four phases:
1) co-assessment of neighbourhood quality through creative methods, such as mapping, drawing, and child-led photo-walks, and exploring children's feelings on how the pandemic-associated responses have affected their lives; 2) co-creation of a phased recovery strategy through model-making; 3) co-building of one element from the recovery strategy with direct participation of CYP; and 4) co-creation of an accessible toolkit for planners with inputs from CYP.

Activities were conducted between March and August 2022, and this presentation will share the findings from the first two phases of co-assessment of neighbourhood and co-creation of the phased recovery strategy. Preliminary analyses reveal that the pandemic has disrupted children's social networks, leading to sadness, anger, boredom, frustration, and feeling 'stuck'. Children's ideas for a Grangetown to grow up in can be grouped into four themes: clean and safe; playful; green; and inclusive. A draft recovery plan for a child-friendly community has been developed and includes recommendations that can be applied in other communities in Cardiff, and throughout and beyond the UK.

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The egality of child-led design

Designing for children is designing for the economically disadvantaged. Designing for children is designing for the politically powerless. Designing for children provides for the many.

There is an egalitarianism to designing from a child's perspective. It supports the vulnerable, the playful, the less mobile, and the adventurous. Play can be chaotic and yet the design of spaces, with their clean-line principles, eliminates the messy and chaotic parts of the human experience.

The background to this session is the frightening disconnect our children are facing with the natural world – the increasing statistics of mental disharmony in our young, and reports of physical developmental delay and ill health that are being reported on a regular basis.

One in five adolescents experience mental health issues and, in some instances, children as young as five are presenting with symptoms. According to a recent NHS report, cases have increased by 5 per cent since 2017. In the UK, 15 per cent of children at reception age (four to five years) are obese. By 11 years old, 40 per cent are considered overweight or obese.

We're still yet to realise the impact of the coronavirus pandemic on a generation of children living through restrictions to their freedom of movement.

In this interactive session, we will discuss play. We will share memories and experiences to return to the heart of what it is to be a child: an unromantic remembrance in order to create a conversation about how we design for the young of our communities. And we will co-create a momentary manifesto, a practical portfolio to support the next generations as they grow up in these city spaces.

Greenspace & Us: Using participatory and creative approaches to understand access to green space for teenage girls

Access to and connection with nature are key determinants of physical and mental wellbeing, yet some groups face significant barriers to accessing green space. Time spent in green space and nature connection drop significantly in early teenage years. Teenage girls are less physically active than their male counterparts and are at high risk of poor mental wellbeing. Greenspace & Us is a community insights project that used participatory and creative approaches to understand the barriers and enablers influencing access to green space for young women in East Oxford.

Methodology: Twenty teenage girls aged 10-16 and from diverse backgrounds participated in six three-hour workshops. Content was informed by a quantitative survey implemented at a local secondary school, and developed iteratively to meet participants' needs. Methods included small group discussions, a green-space walkabout, and group analysis of themes exploring factors that influence access. The girls also worked with creative partners to translate their new knowledge and understanding into a 'manifesto for inclusive green space' and presented this to stakeholders.

Results: Participants identified an unmet need for local public green space that provides opportunities for teenage girls to relax, socialise and study, as well as participate in group sporting and recreational activities. Participants articulated that green spaces tend to be male-dominated, with little provision of equipment or facilities for adolescents. Safety concerns focused around 'dogs, boys and footballs'. Co-produced manifesto statements and accompanying artwork included the desire to have opportunities to learn about green space and nature; for young people to be consulted on local green-space developments; and to ensure access to infrastructure that allows teenage girls to spend more time in green space, including clean toilets, natural features, shelter, and seating.

Conclusions: This project provided an opportunity for young women to voice their opinions and develop understanding about factors that influence their use of public space. Findings set a precedent for future green-space developments that prioritise the needs of teenage girls and support their health and wellbeing. The project also offered learning about ways to engage with young people in matters relating to their built and green environment.

Lizzie Moore (UK)
Public health registrar,
Oxfordshire County Council

Emily Jiggens (UK)
MSc student,
public health team,
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Principal,
Stantec

Robyn Whitwham
(Canada)
Associate, architect,
Stantec

Embracing diversity and inclusion in an urban young-adult mental health hub

The City of Toronto has had a distinct gap in mental health services to support young adults transitioning from child/adolescent to adult mental healthcare. Stella's Place was established to fill this void for young adults aged 16 to 29, many of whom are Black, Indigenous and people of colour (BIPOC), LGBTQ+, and experiencing food or housing shortages. The founders recognised this group's mental health needs and co-designed a new programme with the young adults themselves.

A disused warehouse in downtown Toronto was purchased for the new hub. The building is near several colleges, universities and shelters, accessible by foot, public transit, and bicycle. Instead of tearing down a heritage structure, Stella's Place chose to work with the available building infrastructure, maintaining the existing urban scale and respecting surrounding building types.

Feedback from early co-design sessions clarified that users wanted a space that is readily accessible, barrier-free, and fosters inclusivity, equity and a sense of belonging – a place that provides peer-directed support in an urban, non-clinical setting. Flexibility was a central design tenet, ensuring accommodations for diverse programming, while welcoming the greater community to participate in various therapeutic activities. Key goals were to create a welcoming health hub that not only destigmatises mental healthcare spaces but enables equitable access for users and the community, acting as a catalyst for community engagement.

The culture around wellness has evolved to redirect care outside of the clinical setting whenever possible, and the new space reflects this change. In addition to relieving pressure from acute mental health services in the downtown core, Stella's Place provides a setting for a diverse community to flourish. Whether young adults are visiting to meet a friend for coffee in the cafe, participating in group therapy in the multipurpose rooms, attending a cooking class in the shared kitchen, or talking to a peer supporter in the one-on-one counselling rooms, the health hub model offers a safe place for care and support.

Stella's Place has emerged as a prototype for young adult-driven, age-specific, community-based mental health services in Canada. Plans to expand the model to other Canadian communities are being explored.

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HEALTHCARE PLANNING ACADEMY
uia PUBLIC HEALTH GROUP

Chair

Lourdes Madigasekera-Elliott (UK)
Public health strategic lead,
creating healthy places,
East Sussex Council

Panel:

Ric Bravery (UK)
Strategic health lead,
City of Wolverhampton Council

Gemma Hyde (UK)
Project and policy officer,
healthier places,
Town and Country Planning Association

Catriona MacRae (UK)
Health in All Policies project officer,
Haringey Council

LUNCHTIME WORKSHOP:

Introducing future generations of the public health spatial planning workforce in translating healthy places evidence into practical reality

Monday 10 October,
Dorchester Library, 12.40-13.50

Organised by:

HEALTH & WELLBEING in PLANNING

There is a long-standing recognition that the relationship between the environment and people's wellbeing is complex and requires multidisciplinary approaches.

The role and fundamental skill sets of the workforce are being challenged by the need to meet both the changing legislative and policy frameworks, and to meet changing priorities towards healthier places and environment. But the status quo of silo mentalities among the workforce of public health and built environment practitioners is ineffective, and existing approaches are not fit for purpose for the outcomes society demands for healthier living. This is partly because of the systemic lack of discourse on the cross-disciplinary skills and competencies necessary to realise healthy places.

To achieve healthy places, practitioners must have a working understanding of each other's legislative mechanisms and delivery tools. Public health practitioners must be able to influence and direct the planning and development process. And planners must understand how policies or decisions will impact on population health and wellbeing. This professional evolution is manifesting in the emergence of a workforce generation at the interface of planning and public health.

Organisations from this panel are supporting the national and local capacity building of leaders and practitioners as an emerging breed of public health spatial planners to work at the interface between planning, transport, development, and/or regeneration and health teams.

LUNCHTIME WORKSHOP:

Radically refocusing on people and nature will save our cities

Tuesday 11 October,
Council Chamber, 12.40-13.50

Organised by:

Ryder

Our mission is to improve people's lives. Cities are not made by architects; inclusive, vibrant communities and healthy ecological systems make thriving cities. Join us for a lively expert panel discussing the key principles to shaping healthier, greener, more resilient communities that embed social, economic and environmental regeneration at their heart.

Our panel will share the latest insights from their extensive spheres of expertise. We will champion a regenerative approach to placemaking with a session broadly focused on three areas.

We will discuss the value of a data-rich, evidence-based approach to intelligent masterplanning. We have a wealth of data, modelling and forecasting at our disposal; with this come some pitfalls but even greater opportunities to create healthier, more resilient cities.

We will reimagine how we can enable and empower the communities that make up our cities through design interventions that focus on social interaction, connection to nature, and inclusivity. By focusing on communities, we can ensure we're enabling those most in need to thrive. And we can reimagine cities as learning environments and breathe new life into often underutilised heritage and cultural assets.

Finally, we will look to green infrastructure and nature-based design solutions as the linchpin, the critical intervention needed to regenerate and evolve our urban centres, and the key to creating healthier and more resilient environments for people, communities, and the planet. We will explore how radically rethinking and embracing green infrastructure will future-proof our cities and improve our personal, societal and environmental health.

Chair:

Dr Oliver Jones (UK)
Research director,
Ryder Architecture

Panel:

Rachel Cooper OBE, PhD (UK)
Professor of design management and policy, Lancaster University;
Main commission member, Commission on Creating Healthy Cities

Marcus Grant (UK)
Editor in chief,
Cities & Health

Gemma Hyde (UK)
Project and policy officer,
healthier places,
Town and Country Planning Association

Luke Engleback (UK)
Founder and director,
Studio Engleback

Sue Morgan (UK)
Chief executive,
Landscape Institute

Chair:

Andreas Markides (UK)
Managing director,
Markides Associates

Panel:

Kat Hasler (UK)
Place outcomes lead,
The Scottish Government

David Rudlin (UK)
Director, URBED; Past chair, The Academy of Urbanism; Honorary professor, Manchester University

Emma Wilson (UK)
Head of development policy, strategy and performance,
Sovereign Housing Association

Joan Devlin (UK)
Chief executive, Belfast Healthy Cities

LUNCHTIME WORKSHOP:

Mechanisms to change behaviour in order to achieve healthier places

Tuesday 11 October,
Dorchester Library, 12.40-13.50

Organised by:

THE ACADEMY OF URBANISM

Before we can achieve healthier cities, we need to think about changing behaviours at many different levels. Working at the micro-scale, for example, neighbourhoods and smaller communities, as in a rural setting, would provide us with the tools to implement measures in much bigger settings, such as cities.

This panel's discussion will focus on this major hurdle and the need for everyone – planners, developers, local authorities and citizens – to change our approach towards tackling health. Why is it that Utrecht has made health the linchpin of its myriad city strategies? Yet in the UK – where lip service is often paid to healthier places – the first questions put forward are invariably: "what are we going to do about traffic?"; or "how can we achieve a stronger economy?"; or concerns about housing delivery, etc.

The panel will explore theory, policy, and practical case studies in an effort to break this behavioural deadlock and to provide some direction towards achieving the objective of healthier cities.

Contact:
Agamemnon Otero,
Founder and chief executive

W: www.energygarden.org.uk

Energy Garden

Energy Garden empowers communities to regenerate "from solar to seed". The organisation activates and supports communities across London to grow food, learn about renewable energy, help with gardening, and improve biodiversity.

Over the last decade, Energy Garden has secured funding to negotiate the legal permissions of solar installations, fund staff to oversee the development of 26 gardens, run 70 schools' programmes and five youth training programmes, and buy the materials and equipment necessary to help communities transform their schools, estates, and overground train stations into green, health-giving spaces. Across the 26 gardens, more than 140 people are now actively involved on a regular basis with Energy Garden, positively impacting residents and millions of train passengers.

Transport is responsible for about 27 per cent of all greenhouse gas emissions in the UK. Energy Garden works with transport providers in London to decarbonise the railways with solar energy and green space. To do this, the organisation is co-creating the journey with passengers. They activate rail stations, train depots, local schools, hospitals and housing estates with solar panels, battery storage and gardens. This results in thousands of square metres of grey space turned green, and millions of MW hours of renewable electricity generated to decarbonise communities.

Using regenerative farming principles, each Energy Garden has a positive social and environmental impact, from reducing commuter stress to improving air quality, ecological resilience, and urban biodiversity, as exposure to green spaces improves mental health and wellbeing. The impact has been recognised by TfL, as stations with an Energy Garden consistently have the highest customer satisfaction scores, independently verified with customer/ passenger survey reports by Imperial College. Imperial notes that improved wellbeing, a greater sense of place, and an enhanced feeling of belonging also bring benefits for the National Health Service. It highlights that for every £1 invested into the Energy Gardens, there is a £3.31 social return, or £161,316 to the NHS per year. This is further supported by the Energy Garden Metric, a dashboard that assesses the environmental social and financial outcomes and relates these to the 17 UN Sustainable Development Goals.

Energy Garden is now moving from a philanthropic grant programme used to support core funding of social and environmental outcomes, to an inclusive, collectivised acquisition of energy assets that generate a return for all. The model aims to empower regular people to become members and invest in the infrastructure around them, as well as break the dependency of a one-way system.

The full share offer document can be found at www.ethex.org.uk/invest/energy-garden-2.

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Consultant advisor and associate
Mario Bozzo

Lead research advisor and associate
Mark Drane

W: www.salus.global
W: europeanhealthcaredesign.eu
W: healthycitydesign.global

SALUS Global Knowledge Exchange

SALUS is an entrepreneurial global media, research, publishing, events and training organisation with a vision to improve human and planetary health through the global exchange of knowledge.

Our mission is to create, share and disseminate knowledge about the relationship between human health and the natural, built and social environments. We view the two great challenges of our age – the need to maintain and improve human health in the face of ageing populations and chronic disease, and addressing climate change through more sustainable management of our finite resources – as inextricably linked.

Knowledge exchange – events, publications and broadcasting:

SALUS TV: This is a new resource to complement our congresses, disseminate knowledge and content, and make the virtual experience even richer and more entertaining. Our vision is to stream live and 'on demand' content to a global audience 24/7, featuring people, organisations, innovations and projects designed to deliver better health, and improving human and planetary health by design.

The SALUS journal and online community: A resource providing a digital platform for publishing, mapping and archiving research, policy and practice in the field of designing for human and planetary health. In eight years, SALUS has published more than 5000 articles and abridged research papers and 2000 hours of video talks and posters in the field, collaborating with a global network of professional, academic and government organisations.

European Healthcare Design Congress: Launched in 2015, the Congress brings together interdisciplinary researchers and practitioners from the fields of health system and service design, technology and infrastructure. In 2022, the Congress was hosted in-person and broadcast online to 1000+ participants from around 40 countries.

Healthy City Design International Congress: Launched in 2017, the Congress brings together leading researchers, practitioners and policy thinkers from across the fields of urban health, sustainable development and planetary health. In 2020 and 2021, owing to the pandemic, the Congress was broadcast online-only to around 400 delegates. This year, it is being hosted in-person with live streaming for virtual delegates.

Research advisory: SALUS is currently building an independent research advisory arm. Last year, SALUS was commissioned to produce a 'Guiding principles' document to support the development of Veraine, a planned new healthy community, in Pickering, Canada. See session 11 for an update on this project (p61).

Health is made at home: In 2020, in a joint venture with Lord Nigel Crisp, former CEO of the NHS (2000-2006), SALUS published 'Health is made at home, hospitals are for repairs' and broadcast a webinar series titled, 'Building a healthy and health-creating society', designed to promote 'health creation' in society. See www.healthismadeathome.uk.

Royal College of Art
THE HELEN HAMLYN CENTRE FOR DESIGN

Contact:
Rama Gheerawo, director

Dr Chris McGinley, senior research fellow, age and diversity research leader

Dr Jak Spencer, research fellow, social and global research leader

W: www.hhcd.rca.uk

The Helen Hamlyn Centre for Design, Royal College of Art

The Helen Hamlyn Centre for Design in London is the Royal College of Art's largest and longest-running centre for design research. It's an international leader in people-centred and inclusive design – the process of designing products, services and systems for ease of use by the maximum number of people.

Founded in 1991 and endowed by the Helen Hamlyn Trust, our purpose is to conduct design research and projects with industry that will contribute to improving people's lives. Our interdisciplinary approach is based around a series of interlocking research activities related to design for ageing, health, work, mobility and cities. We have developed empathic and innovative research methods, working in partnership with a wide range of business, industry, government, academic and third-sector partners.

Our expertise in healthcare has extended from design policy and information to the development of systems, services and products. Our projects include a total redesign of the interior space of the emergency ambulance.

Cities HEALTH

Contact:
Marcus Grant,
Editor in chief

W: www.tandfonline.com/journals/rcah20
E: MarcusxGrant@citieshealth.world

Cities & Health

The international journal *Cities & Health* provides an innovative platform supporting the curation and communication of research for policy and practice. The journal's core focus is city planning, design and spatial governance for population health, planetary health and healthy equity.

The journal acts to support networks and communities with similar aims. It is committed to developing a shared evidence base, encouraging better cross-disciplinary understanding and supporting critical trans-disciplinary practices.

The journal publishes papers and commentaries from researchers, practitioners and policymakers working to build a new wisdom for supporting healthier cities.

THE ACADEMY OF URBANISM

Contact:
Christine Smallwood,
Managing director

W: theaou.org

The Academy of Urbanism

The Academy is an active, not-for-profit, politically independent membership organisation founded to expand our collective understanding of placemaking and to share best practice. We bring together the current and next generation of leaders, thinkers, and practitioners spanning the disciplines and sectors that contribute to great places.

Through our events, activities, and programmes, we draw out and disseminate examples and lessons of good urbanism. We use the evidence we gather to promote better understanding of how the development and management of the urban realm can provide a better quality of living for all.

Creating places that promote health and resilience is at the heart of our mission, and we are happy to endorse Healthy City Design International.

C3 COLLABORATING FOR HEALTH

Contact:
Christine Hancock,
Founder and director

W: www.c3health.org

C3 Collaborating for Health

Imagine a world where people find it easier to live healthy lives and where there are no premature or preventable deaths from chronic non-communicable diseases (NCDs). That was the dream of our founder and current director, Christine Hancock, when she started C3 Collaborating for Health in 2009.

Following an illustrious career in nursing, including many years as CEO of the Royal College of Nursing and president of the International Council of Nurses, Christine came to realise that healthcare was intervening too late in a person's life. This delay meant that people were suffering and dying from illnesses that could have been prevented. Christine made a bold decision: to shift the focus to prevention and wellbeing by addressing non-communicable diseases (NCDs) and their risk factors before people fall sick or need care.

C3 believes that preventing these diseases requires collaboration between all sections of society and a focus on the three risk factors that impact NCDs: unhealthy eating and drinking; lack of physical activity; and tobacco use. This includes addressing both the individual and environmental barriers to leading a healthier life. We're pleased to see increasing global recognition that prevention, NCDs and risk factors are critical issues, especially with the inclusion of NCDs in the UN Sustainable Development Goals. Our work, however, has become more urgent as the NCD epidemic escalates and health systems buckle under enormous financial demands.

Only through collaboration can society hope to overcome this public health crisis. We're known for the breadth of our work and openness to engagement with all sectors, which is evident by our past and current partners and funders. We also specialise in projects with businesses, communities, workplace health and health professionals.

Centre for Urban Design and Mental Health

Contact:
Layla McCay,
Director

W: www.
urbandesignmentalhealth.com

The Centre for Urban Design and Mental Health (UD/MH) is an international think tank focused on answering one question: how can we design better mental health into our cities?

Mental illness accounts for 14 per cent of the global burden of disease, and one in four people will experience mental health problems in their lifetime. Good population mental health is essential for a thriving, resilient, sustainable city. Yet urban living is not only associated with stress and loneliness but also with substantially elevated rates of depression, anxiety and schizophrenia.

Urban planners and designers are only just starting to understand the huge potential opportunities for impact and value in designing for good mental health.

UD/MH launched in 2015 in response to the need for increasing global knowledge at the nexus of urban design and mental health.

With fellows and associates around the world, UD/MH brings together diverse evidence, promotes strategic research, catalyses conversations, and develops practical guidelines to inspire and empower policymakers, planners and designers to systematically integrate public mental health into their work.

Design Council

Contact:
Edward Hopson,
Director of place

W: www.designcouncil.org.uk

The Design Council is the UK's national strategic advisor for design, championing design and its ability to make life better for all.

It is an independent and not-for-profit organisation incorporated by Royal Charter.

The Design Council uniquely works across all design sectors and delivers programmes with business, government, public bodies and the third sector. The work encompasses thought leadership, tools and resources, showcasing excellence and research to evidence the value of design and influence policy.

In 2021, the organisation introduced its Design for Planet mission, which aims to galvanise and support the 1.97 million people who work in the UK's design economy to help achieve net zero and beyond.

Health and Wellbeing in Planning (HiP) Network

Contact:
Michael Chang,
Co-founder

W: healthinplanning.wordpress.com

The Network was set up to help support practitioners working in the area of promoting health through planning and the built environment, whether you are a planner, health professional, architect, developer, academic, engineer, or anyone in any sector with an interest in leveraging the power of planning to deliver healthier places.

The Network was set up in October 2018 and aims to remain an active platform for its members as we support a new generation of 'public health spatial planners'.

Housing Learning and Improvement Network

Contact:
Jeremy Porteus,
Chief executive

W: www.housinglin.org.uk

The Housing Learning and Improvement Network (LIN) is a sophisticated network bringing together housing, health and social care professionals in England, Wales, and Scotland to exemplify innovative housing solutions for an ageing population.

Recognised by government and the housing-with-care sector as a leading 'knowledge hub' on specialist housing, our online and regional networked activities aim to:

- connect people, ideas and resources to inform and improve the range of housing choices that enable older and disabled people to live independently;
- share market insight and intelligence on the latest funding, research, policy and innovative developments to spread practice faster; and
- engage with industry to raise the profile of specialist housing with developers, commissioners and providers, in order to plan, design and deliver aspirational housing for an ageing population.

ISGlobal

Contact:
Carolyn Daher,
Co-ordinator, Urban Planning, Environment and Health Initiative

W: www.isglobal.org

ISGlobal is a consolidated hub of excellence in health research that encompasses more than 30 years' experience, drawing on expertise from both the hospital environment and academic institutions.

ISGlobal has become a pioneer in its field, combining research on communicable diseases with research on chronic diseases and their environmental and climatic causes. A pivotal mechanism of our work model is the transfer of knowledge from scientific research to practice, a task undertaken by the institute's education and policy, and global development departments, and through programmes such as the Urban Planning, Environment and Health Initiative.

Our ultimate goal is to help close the gaps in health disparities between and within different regions of the world.

ISOCARP

Contact:
Ana Peric,
Director for awards,
communication and marketing

W: www.isocarp.org

Founded in 1965, the International Society of City and Regional Planners (ISOCARP) is a global association of professional city and regional planners, policymakers, and academics in the field. It brings together individual and institutional members from more than 85 countries with a vision to make cities inclusive, safe, resilient and sustainable through integrative participatory urban and territorial planning.

The mission of ISOCARP is to mobilise professional urban and regional planners to co-implement the vision enshrined in the Sustainable Development Goals and the New Urban Agenda by: creating a global network of practitioners; fostering planning research, training, and education; encouraging the professional exchange of knowledge; promoting the planning profession and excellence in practice in all its forms; developing and maintaining altruistic relations between members; enhancing public awareness and understanding of major planning issues at the global level; and supporting and protecting planning interest and professional planners.

International Society for Urban Health

Contact:
Giselle Sebag,
Executive director

W: www.isuh.org

Achieving improvements in urban health is essential to global health and achieving the UN Sustainable Development Goals. The International Society for Urban Health (ISUH) says it's the only global, non-governmental organisation that focuses fully on evidence for action to address the broad determinants of urban health and health equity.

The ISUH understands that the health challenges in urban environments are complex and require interdisciplinary collaboration among a variety of stakeholders, including researchers, educators, policymakers, practitioners, community and business leaders, and urban health advocates. The organisation is singular in its ability to promote and facilitate participation from sectors including urban planning, architecture, transportation, housing, energy and environmental science, to make cities and urban communities healthier and more equitable by improving the built, social, economic and physical environments.

LDN Collective

Contact:
Max Farrell,
Founder and CEO

W: www.ldn-collective.com

LDN Collective is a network of 50 built environment experts and creatives fighting to improve people's lives and the planet's prospects. As self-employed entrepreneurs, we can tailor-make teams without the overheads, convening and disbanding for place-based projects like a film's cast and crew. Whether you are private, public or non-profit, we can turn your vision into a reality and make tomorrow's city, today.

Mike Nightingale Fellowship

Contact:
Nigel Draper,
Trustee

W: www.
mikenightingalefellowship.org

The Mike Nightingale Fellowship was established in 2012 and is a registered charity in the UK. The charity aims to change lives through sustainable development and is presently active in South Africa, principally in Hout Bay, where it is leading or contributing to a number of projects.

The charity sees its role as one of enabling improvements, by providing resources and skills that bridge critical gaps, which are often small but prove difficult to overcome.

Applied judiciously in the right place and the right time, even small amounts of resources can help people with limited opportunities to develop their own skills and capacities to improve their own lives, and those of their families and communities.

By applying methods and approaches that can be readily replicated in other similar projects and places, resources can be deployed even more efficiently and sustainably. Lives will only be truly changed if the change is socially, economically and environmentally sustainable. The Fellowship will support changes that meet the needs of the present without compromising the ability of future generations to meet their own needs.

Town and Country Planning Association

Contact:
Julia Thrift,
Director of healthier place-making

W: www.tcpa.org.uk

The Town and Country Planning Association's (TCPA) vision is for homes, places and communities in which everyone can thrive. Our mission is to challenge, inspire and support people to create healthy, sustainable and resilient places that are fair for everyone.

Our strategic priorities are to:

- work to secure a good home for everyone in inclusive, resilient and prosperous communities, which support people to live healthier lives;
- empower people to have real influence over decisions about their environments and to secure social justice within and between communities; and
- support new places and transform existing places to be adaptable to current and future challenges, including the climate crisis.

The TCPA has extensive experience of facilitating collaboration between public health teams, planners, councillors, businesses and others to understand the health of local populations and to work together to create places that support good health and reduce health inequalities.

UCL Institute for Environmental Design and Engineering

UCL Institute for Environmental Design and Engineering pursues a deeper understanding of the interactions between the built environment and health, human wellbeing, productivity, energy use and climate change.

Creating buildings and spaces that support human health and wellbeing and ensure the sustainability of local and global ecosystems is the core purpose of our research, and is reflected in our postgraduate teaching. We are part of The Bartlett, ranked third for architecture and built environment studies in the 2022 QS World University Rankings. Our postgraduate programmes include, among others: Health, Wellbeing and Sustainable Buildings MSc; Environmental Design and Engineering MSc; Smart Buildings and Digital Engineering MSc; and Light and Lighting MSc.

Contact:
Maija Powell,
Communications and marketing manager

W: www.ucl.ac.uk/environmental-design

Urban Design Group

The Urban Design Group (UDG) is an international membership charity devoted to improving life in cities, towns and villages through better design. The UDG believes that good urban design depends on successful collaboration between all those who shape the built environment, whatever their professional or personal background.

Founded in 1978, the Group aims to promote high standards of performance and inter-professional co-operation in planning, urban design and architecture, landscape design, and all other aspects of the built environment; and educate relevant professions and the public in matters relating to urban design.

We work to support urban designers and foster an increased appreciation of the value of quality in the public realm through our events programme, newsletter and acclaimed journal *Urban Design*.

Contact:
Robert Huxford,
Director

W: www.udg.org.uk

Worktech Academy

Worktech Academy is the world's leading online knowledge platform and member network exploring the future of work and workplace. Sharing the latest insights, research, case studies and expert interviews with its global community of 10,000 high-level professionals, Worktech draws on its worldwide network and series of events to harvest the newest knowledge and ideas in six key areas: people; place; culture; design; technology; and innovation.

In a rapidly changing world, where investment decisions require hard evidence, Worktech Academy provides the practical tools that shape how we'll work tomorrow.

Contact:
Jeremy Myerson,
Director

W: www.worktechacademy.com

HDR

Contact:
Hank Adams
Global director, health

Jeri Brittin
Director of research

W: www.hdrinc.com

SILVER KNOWLEDGE LEADER

We believe the way we work can add meaning and value to the world. That ideas inspire positive change. That colouring outside the lines can illuminate fresh perspectives. And that small details yield important realisations. Above all, we believe collaboration is the best way forward.

For more than a century, HDR has partnered with clients to shape communities and push the boundaries of what's possible. Our expertise spans nearly 10,000 employees, in more than 225 locations around the world – and counting. Our engineering, architecture, environmental and construction services bring an impressive breadth of knowledge to every project. Our optimistic approach to finding innovative solutions defined our past and drives our future.

HLM Architects

Contact:
Chris Liddle
Director

W: www.hlmarchitects.com

SILVER KNOWLEDGE LEADER

HLM is a leading design practice headquartered in the UK. We're architecture, landscape and interior specialists with deep sector insight. We design places of education that inspire, healthcare environments that nurture, homes that are part of thriving communities, and infrastructure that is sustainable in every sense. It is this sense of social purpose that drives us on and is at the heart of all we do.

We recognise the importance of design quality, sustainability, and innovation in the creation of truly therapeutic environments. Our knowledge and expertise can be applied to all sectors, including workplace, defence and justice, education, healthcare, hospitality, leisure, culture and communities. Many of our award-winning projects have involved the creation or transformation of major public spaces internally and externally, the integration of healing arts strategies, and the co-ordination of extremely complex services installations.

Llewelyn Davies

Contact:
Robert Etchell
Director

W: www.ldavies.com

SILVER KNOWLEDGE LEADER

The original partnership of Llewelyn-Davies Weeks was founded in 1960 by (Lord) Richard Llewelyn-Davies and John Weeks, both innovators in the design of flexible, highly serviced environments.

Llewelyn Davies has since pioneered new thinking in the planning and design of health and science buildings, delivering more than 250 hospital projects in 80+ countries, by employing an adaptive, intelligent approach to create high-value solutions.

The company is one of the UK's leading masterplanners. From Milton Keynes to the urban renaissance agenda of the 21st century, through policy guidelines and development strategies, it has influenced the UK Government's vision for planning and design. The global export of this knowledge has led to commissions in six continents.

Ryder

Contact:
Paul Bell
Partner

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BRONZE INNOVATION LEADER

Ryder Architecture

Ryder was established in Newcastle upon Tyne in 1953 and now has a team of more than 300 people in Newcastle, London, Glasgow, Liverpool, Manchester, Hong Kong, Vancouver and Amsterdam, reinforced by global connectivity through the Ryder Alliance.

We deliver pioneering architectural and design services across a diverse portfolio. We have also been recognised with more than 200 awards, most recently with a Queen's Enterprise Award for International Trade, and being named Building's Architectural Practice of the Year 2021.

URBAN HABITATS
thinking | strategy | making

Contact:
Mark Drane,
Director

W: www.urban-habitats.com

BRONZE INNOVATION LEADER

Urban Habitats

Urban Habitats is a creative research and design practice working internationally. Our values are working to address population health; planetary health; reducing inequalities; creating with communities; and taking an evidence-informed approach. Urban Habitats works across and between public health, urban design, and urban health. Recent work includes:

• Community Voices, Community Consultation for Quality of Life: co-producing green space and park amenities with children.

• Circular Economy Health Impact Assessment: including the implications of Covid-19, with Public Health Wales.

• Climate Change Adaptation Toolkits: how public bodies can plan climate change response in ways that can reduce health inequalities.

Our director, Mark Drane, is attending the full conference and will be speaking in Session 10 (Day 1, 2pm) and Session 11 (Day 1, 4pm).

The Living Street, Northfleet

HLM Architects has developed a concept called the Living Street that is entirely free from motorised transport. The Living Street is designed to stimulate neighbourly interactions and community events by providing a vehicle-free thoroughfare through which people can move or gather safely. We envisage this connective green space branching across new developments and into existing places. The Living Street will encourage activities for families and residents, where friendships can build and the community feels truly happy. A place close to home, an extension of your home.

HLM Architects

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