

PERSPECTIVE OPEN



Exploring the potential connection between place capital and health capital in the post COVID-19 city

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Great places have the potential to create enhanced health outcomes and improve quality of life. The positive connection between the built environment and the social determinants of health is well documented as is the role of the built environment in establishing place quality and sense of place. However, the relationship between the concepts of place capital and health capital is less understood and specifically the extent to which high levels of place capital confer a protective and restorative health benefit across the whole of life. COVID-19 changed our appreciation of the role that both health and place play in supporting our quality and way of life and has revealed the negative impact on wellness and wellbeing that arises when our connection to place is fractured. To contribute to the debate surrounding the post-COVID-19 city, this paper explores the intrinsic connection between place and health; it proposes a conceptual model that positions place capital as a tool for enhancing whole of life health capital at a neighbourhood scale. The Framework for measuring this place capital is created from traditional place literature and the new place context literature on the need to be inclusive, equitable and sustainable. It suggests that by building great places that are based on these measurable factors, there can be a reduction in the growth of medical spending and burden of disease over time.

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Microbes have challenged human existence for thousands of years, shaping societies and accelerating changes to the urban landscapes of the world that were necessary or inevitable¹. The cholera epidemic that swept through Europe in the early Nineteenth Century led to transformative public health¹ and sanitation measures in London² and paved the way for Haussmann's State-led modernisation of Central Paris³ whereby dense and disease-ridden mediaeval city districts were demolished and replaced with the wide boulevards that characterise the city today. Ultimately even Olmsted's public parks movement in the United States represented an antidote to his growing concern about the impacts of urban growth and consequential overcrowding on population health, wellbeing, and the spread of disease⁴. Public health challenges have proven to be powerful in their ability to reveal urban vulnerabilities⁵, exposing the extent of health inequality both between and within cities, and prompting collective action. In the history of pandemics, COVID-19 stands as a force majeure, its impacts accelerated and amplified by the increasingly urbanised and mobile nature of contemporary society⁶ with its globally connected supply chains⁷. Hopefully the public health legacy of such a significant disruption will be an equally powerful force driving the positive changes that will transform health for future generations.

This paper explores how rediscovering the importance of local place qualities during COVID-19 can indeed be the source of an important urban legacy. It sets out first to understand how the notion of great places (Box 1) with high levels of place capital can be related to health capital (Box 2), doing so not just as a theoretical interest but to show that urban policy and practice should be a major part of health policy and practice. It then suggests that by creating a measurable Framework for place capital as well as health capital, the two can be understood as integrated aspects of any urban development and illustrates this with three case studies. It finally suggests that by making measurable approaches to place capital it would mean that great

places across cities and communities could be conceptualised as a part of public health and a practical means of controlling burgeoning medical budgets for national or state governments as well as households.

THE COVID-19 CONTEXT

The recent pandemic experience has been a powerful reminder that cities as social and economic entities only succeed when their people thrive and hence huge increases in government health budgets were required to address the immediate needs of sick people through medical interventions^{8,9}. Ahead of COVID-19 however, these budgets were already under threat from a combination of contagious and not communicable diseases as chronic and lifestyle-related illnesses and mental health conditions had become the leading cause of death in urban populations¹⁰. In the post-COVID-19 world it is time to accept the challenge of addressing not just health but how the new-found place-making ideas can be translated into reductions in both public and private health spending. Significant, co-ordinated public spending on health infrastructure and services has a strong basis in medical research but does not provide the whole solution; a more progressive approach that reflects all the factors that collectively support enhanced health outcomes should be at the vanguard of how we build or rebuild our future cities. This is not a new idea as public health has challenged the medical model for many decades; other papers in this series have shown the importance of social determinants of health and even the significance of more active lifestyles as part of the response to COVID-19. But as will be shown below, public health has not developed a theory and especially the practice of how improving places across cities could indeed be a powerful determinant of population health and significantly address the issues of chronic disease and rapidly growing medical budgets.

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Box 1 Defining Great Places in Terms of Place Capital

The term 'great places' is central to this paper. We are explicating this as a technical practice term derived from the discipline areas of planning, architecture, built environment, urban design and placemaking; however, we are also using the rich scholarly tradition around place context in political economy and cultural theory which is often critical of the technical practice of how to make great places. So, we are building on the place practice literature to draw together what defines a great place (from the more narrow and instrumental perspective of having high levels of place capital capable of creating measurable benefit for their communities of users), but at the same time using insights from broader place context literature to ensure it is inclusive, equitable and sustainable. The paper tries to integrate these big place context ideas, now a part of the urban Sustainable Development Goal number 11, into something that can be part of technical practice. The resulting framework for place capital and the three case studies are provided to show that with more focussed intentionality it is possible to turn the concept of a great place into practical and measurable outcomes, and in particular to show how this can be related to health capital.

Our research draws from the literature and also from practice based on the lived experience of ordinary people, understanding the emotional attachment that arises from their interaction with multiple layers of tangible and intangible elements¹⁰⁴ that combine uniquely in any given bounded geography. These elements include its physical assets, attributes, experiences, memories, and social networks which collectively create place capital. Place capital as proposed, is a utilitarian concept, reflecting only one aspect of people-place relationships, albeit one that is under-developed in literature as a measurable item of urban design. In the context of this article, it can be understood as a measurable stock of publicly accessible assets, amenities, services, activities, and relationships that confer quantifiable value on its owners (or users) in a particular spatial area. As such great places are the ones that have high levels of place capital and confer greater beneficial flows which can be understood in terms of health, wellbeing, quality of life or lifestyle for individuals and communities as well as other economic value (for example a new Smart Growth America study on 35 US cities showed that walkable spaces represent just 1.2% of spatial areas but produce 20% of US GDP¹⁰⁵). It is recognised that these benefits may not flow equally to all recipients in much the same way that all forms of capital are contested and equally that place capital is not a static construct. Places evolve organically or through conscious intervention, their stock of all kinds of capital may be enriched or degraded; at the same time the beneficial recipients and the extent of value they derive, may also change. The paper explores how new perspectives from place context literature about inclusive, equitable and sustainable outcomes, can be incorporated into the framework that defines place capital as well as more traditional notions of place capital.

Box 2 Health Capital Defined

Health capital reflects an individual's access to the resources that positively impact physical and mental health, happiness or satisfaction¹⁰⁶ combined with their personal health cultures, values and behaviours. It positions the agentic factors that influence conscious decision-making as a material consideration; this is important because whilst health capital diminishes naturally over a lifetime, equally it can be replenished through positive investment²⁹. Figure 4 summarises these forces and their interaction.

The social determinants of health¹¹ are outlined as inequalities in education, employment, income, access to healthcare, housing, and neighbourhood quality¹². Specific aspects of the built environment have been individually explored for their impact on human health including density and land use, quantum of green space, active or public transport connectivity, and distance to amenities¹³. The role of great places in improving health outcomes is however unclear. Giles-Corti has set out the foundations for how place and health can be better integrated¹⁴. Her extensive body of work clearly confirms the positive influence of the built environment on health confirming that place operationalises the causal relationship between the built environment and health¹⁵. Her work recognises that the presence or absence of supporting infrastructure, aesthetic features and micro destinations are factors that promote engagement between people and place with public health outcomes. However, she does not fully explore the positive emotional consequences arising from the qualities of a place or the bonds of attachment that can form between humans and the great places in their lives. Only by extending this logic to explore whether 'great places' also mediate enhanced health and psychological wellbeing or quality of life outcomes through their interwoven mechanisms of sense of place, place attachment and place experience can we develop strategies to realise their full value or secure the investment required to develop and sustain them. This is the role of the urban designer or town planner.

The provocation of this paper is that we need to think beyond the established social determinants of health to embrace 'great places' as a meaningful contributor to human health; to acknowledge that great places enhance physical health outcomes and improve psychological wellbeing for their users, which in turn enriches their quality of life, life satisfaction and, potentially productivity. It proposes that by consciously investing in what we have called 'place capital' (Box 1) across cities, neighbourhoods and even precincts, we can also address health inequalities and build stronger health capital and hence better public health behaviours and outcomes. To do this it first proposes the rise of the post-COVID-19 city and examines how the experience of this

pandemic has created the conditions and enabled the precedent for the next generation of positive urban change based around place capital. Having positioned the concepts of health capital and place capital, it explores how the nexus between them mediates enhanced health, wellbeing, quality of life and life satisfaction for individuals and communities at every age – within and outside pandemic events. Finally, it proposes a Framework for conceptualising the strength of place capital available to a local community and its consequent influence on their individual and collective health before recommending future research activities that can affirm the link between place capital and health capital.

THE POST-COVID-19 CITY

The intrinsic economic advantage of all cities is founded on the proximity between people¹⁶ and is facilitated by their deep layers of educational opportunity, recreational amenity, culture, and life experiences. From the point at which the World Health Organisation declared the pandemic an international emergency on March 11th 2020, urban life, as lived by circa 4.36 billion¹⁷ people, virtually stopped. Those same advantages that had propelled contemporary social success and economic competitiveness were almost instantly negated, becoming instead a source of vulnerability⁶ as our intrinsic desire for association instead threatened our existence. The pandemic was volatile, relaxing and remitting in waves as it crossed and recrossed boundaries, travelling at a different pace around the world and impacting cities, neighbourhoods, and communities with variable intensity at different times. Whilst it was a health crisis, its impacts disrupted every facet of urban life as we understood it¹. The resulting economic uncertainty and misinformation induced a heightened collective sense of anxiety, diminishing wellbeing and quality of life. For almost two years everything was mundane, but nothing was ordinary as lockdowns combined with travel restrictions shrank our world to the micro-neighbourhood within five kilometres of our homes and everyday became 'Blursday'¹⁸. We were isolated from family, friends, communities, and colleagues fracturing the social capital of the city; the network of familiar faces and places that brought meaning to our pre-pandemic lives and shaped our identities were suddenly pathogenised and assumed a fear-laden narrative¹⁹. For the poorest residents in cities across the developing world, persistent anxiety of contracting COVID-19 was exacerbated by the real challenges of malnutrition; here stay at home orders resulted in loss of income for vulnerable residents and consequently starvation.

The immediate negative effects of COVID-19, health outcomes and economic impacts, are well documented: more than 613 million cases and 6.5 million deaths have been reported

worldwide²⁰, meanwhile Coronanomics²¹ suggests that the pandemic will cost the global economy more than USD \$12.5 trillion through to the end of 2024²². The lasting psycho-social and cognitive detriments – dysphoria, reduced wellbeing, diminution of social ties and trust – are however not yet understood but may well have a longer tail in terms of health outcomes. Relative success in combatting the transmission of disease, minimising hospitalisation and mortality rates was by necessity focused on promoting vaccination levels, enforcing stringent lockdowns, and widening accessibility to necessary healthcare services. Accordingly, public investment in health infrastructure and therapeutic interventions have seen exponential growth in many jurisdictions across the developed world – as a means of increasing future pandemic resilience. Investment in place and public realm assets has not necessarily kept pace, sacrificed to ensure spending was directed to where it was rightly needed most in medical budgets. A post-COVID-19 city should place emphasis on the factors that build the resilience of future human health capital and not just those that address the impacts of disease.

The enduring and potentially more damaging impact of the recent pandemic has been the reorientation of the social compact between citizens and their cities or, drawing on Richard Sennett's concept of *ville* and *cite*²³, between the urban fabric and our urban way of life shaped by planning structures. By necessity, draconian interventions curtailed our freedom of association and movement, removing rights considered almost inalienable – to go to school or work, to walk in the streets, meet friends in a café or exercise at the gym. These preventative measures had a significant sequelae for the social health, life and experience of cities, limiting the dense interactions and overlaps between communities that have characterised their vibrant existence and supported their cultural and economic productivity²⁴. The extent to which the urban semilattice is re-connected and social and structural systems reintegrated, is now critical to the future sustained success of cities and is at the heart of the measures that will matter to future public health.

The pandemic and resulting economic collapse have precipitated rapid economic change, accelerated established global mega trends, and brought forward outcomes that whilst inevitable were not anticipated within the decade. This has been seen before in the transitions or waves of innovation that flow from economic declines as finance looks to change their investment focus²⁵. For example, rapid advances in the use of digital technologies enabled two aspects of the economy to go through dramatic change: virtual communications advancing business, entertainment, and education; and green technology due to the rapid reduction in costs of solar, wind, batteries and electric vehicles. Both have enabled the rapid shift toward decarbonising the economy²⁶ and in some cities advanced their circular economy agenda as disruptions to supply chains became increasingly problematic²⁷. Many of the problems revealed or exacerbated by COVID-19 were pre-existing but had been camouflaged through an era of rapid economic growth associated with decreasing housing affordability, growing social disadvantage, the escalating climate emergency, the increasing burden of chronic disease and declining mental health, an ageing population, and the cost of legacy infrastructure. These were already exerting a negative force on poverty and health budgets as well as city sustainability and competitiveness²⁸. Thus, both urbanists and urban-dwellers are reframing the urban narrative to reimagine what makes a city great – to ensure that what we build back is actually better, creating a new paradigm in which the integration of place and health are better used to frame both future urban growth and future health policy. Investing in inclusive, great places that equally promote health and life satisfaction must therefore be intrinsic to the new urban value proposition as it is fundamental to a city's resilience, competitiveness and appeal.

HEALTH CAPITAL

Health is a form of individual and societal capital, and its significance is explained by the economist's notion that good health is a form of commodity leveraged to produce the output of healthy time and functional life expectancy²⁹. Socio-ecological theory recognises that there are many levels of influence that operate on health and health risks, while life course theory proposes that exposure to relative advantage and disadvantage across a lifespan has a cumulative effect and emphasises the significance of both 'geographical place' and 'linked lives' as influencing forces on an individual's experience³⁰. The extent to which an individual maintains their functional health and health capital throughout life is therefore cumulatively influenced by a trifecta of factors: their biogenetics, extrinsic factors relating to the localised conditions in which they are born, grow-up, live and age (usually referred to as the social determinants of health), together with their intrinsic motivators or cultures, values and behaviours³¹. Collectively these factors materially impact on access to education and potential earnings and therefore the anticipated burden of disease, recovery from or resilience to major life disruptions including pandemics³². The social determinants of health are acknowledged to provide the foundations of health over the course of life, they confirm the significance of living conditions, neighbourhood context, health provision, food insecurity and social interaction as well as access to health services or human biology³². But they ignore an important factor – human agency, or the power of people to think for themselves and to make decisions that positively influence their physical and psychological health throughout life: this is the territory of health capital (further explicated in Box 2).

Translating this into practical terms: To support whole of life health capital requires an individual both to have access to, and the propensity to engage with, social and cognitive stimulation, recreational activity, economic opportunity, affordable and accessible health care and fresh food in their high-quality neighbourhood. Social capital theory advances this idea further³³, by proposing that the depth of networks with which an individual engages is also a resource that in part explains variable health outcomes. It suggests that social cohesion and trust can confer a protective effect on health and wellbeing, whilst their absence increases susceptibility to illness and results in a slower recovery³³.

If we accept that functional health and life expectancy is a function of our whole of life health capital, then understanding the elements and attributes that operationalise this relationship assumes great significance. The role of 'place' is implicit in the local area factors but is not directly referenced. At vulnerable life-stages (early childhood, adolescence and older age) or for vulnerable cohorts (low socio-economic groups, migrants) contextual factors such as neighbourhood quality and amenity and social networks, assume particular significance in supporting or diminishing key aspects of health capital including our wellbeing, quality of life and life satisfaction³⁴. In other words, advantage or disadvantage provided by contextual factors becomes biologically embodied and manifests in spatial or population patterns of health inequality. This eco-social approach suggests that communities have an epidemiological profile that is at least influenced by how and where they live in a place (as much as by disease mechanisms) and infers the importance of great places within its characterisation. It also implies that the relative burden and experience of disease is disproportionately felt by those with the least resources or resilience to withstand it or rebuild their health capital. Thus, the need to build up place capital becomes a significant agenda as we rebuild the post-COVID-19 city.

PLACE CAPITAL ASSESSMENT FRAMEWORK

Building on the notion that place capital is linked to health capital the paper shifts to exploring how place capital can be explicated and thereby embedded more intentionally into the practice of building cities, precincts and places. The literature used to create this Framework is derived from traditional literature in the built environment and design professions, and also in the new place context literature that has grown from a better understanding of the need for more fundamental approaches that can make inclusive, equitable and sustainable places, as in the SDG 11 on cities.

The vitality of cities arises from their ebb and flow of human energy. Each city's unique landscapes of social, cultural and economic opportunity are formed where these energy flows converge or cluster. These nodes are the places where ordinary citizens experience life, make sense of their world³⁵ and develop an understanding of who they are and how they fit in³⁶. In this way, place is both a psycho-social and a physical construct, defined as much by human emotion³⁷, experience or meaning³⁸ as by physical form and function. Exploring the idea of place as a locus of choice³⁹ is an important starting point as it establishes the preconditions of bounded geography and material form³⁹, whilst also introducing the notion that what differentiates a place from a space is our emotional connection to it. Place can be private (a home or garden for example) or public and arise at any scale from a local coffee shop to a precinct or neighbourhood. Its material form includes the diverse range of natural or built elements that enable its experiences, social processes or interactions⁴⁰.

No two places are the same and not all places are great, or necessarily great for everyone and all the time, but seeking how to make great places is how we can find new ways of developing place capital and see how this influences health capital in measurable ways. Great places are intrinsic to the sustained success of contemporary cities and central to their quality of life, and lifestyle⁴¹. They are often based around publicly owned assets with low, or no, barriers to entry, delivering intergenerational dividends⁴² that confer powerful individual, local and city-wide benefit⁴³. At a time when the knowledge and creative economy is assuming increased importance to the gross regional product of cities⁴⁴, great places should equally be considered a factor of production through their role in attracting talent and bringing economic or social actors together in an environment where ideas can be exchanged rapidly, and networks formed⁴⁵. Moreover, high levels of place capital can supercharge the development of human, social, health, cultural, intellectual, and natural capitals – a point which is well made by New York based non-profit Project for Public Spaces⁴⁶ (whose mantra builds on the work of architect William Hyde Whyte) in their exploration of the benefit of great places and validated more recently by Matthew Carmona⁴⁷ in his review of the empirical evidence to support the assertion of derived value from place. In this context our proposition asserts that great places have high levels of place capital and will therefore confer the greatest direct and indirect benefit, orienting public policy and development practices towards creating or sustaining great places would consequently achieve a public good outcome.

Establishing the ingredients that are fundamental to great places, and how to measure their depth, will advance our understanding of how place capital can be formed and operationalised to the benefit of human health and wellbeing. The grounded theory of urban designer Jan Gehl⁴⁸ developed across more than fifty years of international practice, has provided a starting point for the development of a Framework. His life's work proposes that ordinary citizens consider a great place to be one they love, where they feel comfortable, or enjoy spending time and of which they have fond memories. His body of work, starting in Scandinavia and moving to cities across the world in

developed and developing economies, suggests that emotional responses to urban place arise from the interplay of urban design and material fabric with a tangle of synchronous activities to create layers of meaning over time. Ultimately these attributes and elements can be combined in an infinite number of ways to create places with unique *genius loci*, a fact that is significant in their ability to evoke meaning, emotion or memory³⁶. These kind of urban design attributes derived from the place literature are measurable and go substantially towards developing a Framework for enabling place capital to be defined and brought into the daily practice of urban professionals. However, there are some deeper issues that are derived from place context literature that need to be drawn into this Framework as well. These are detailed next.

This research paper reflects practice-led scholarship that is seeking to create a more intentional approach to creating great places and the authors acknowledge that in place scholarship, as in real life, this is not often a stated aim. The intentionality of inclusion, equity and sustainability are not always there but the need for these is increasingly being recognised. There is no universal experience of great places, their benefit potentially being operationalised variably across different cohorts of a community. Indeed, places are inevitably experienced by their users at a point in time, at a life-stage or through a series of variable lenses dependent on their personal circumstances⁴⁹ and what is of benefit in one socio-temporal context may work less well in another – this does not necessarily mean that the place itself is not great. Indeed, the great place solutions that are variously deployed by a local government or developer, as actors in the process of urban change, may not always align with how local people think or feel. In this way, the unintended consequence of a new great place may be the disengagement or displacement of other cohorts in a community – even when the target groups are satisfied and able to participate fully in the benefit uplift that has been created. Hence, great places themselves can become a platform on which social and political inequalities are played out⁵⁰ whereby the needs of marginalised groups are sublimated to the interests of the mainstream – disturbing pre-existing place-based relationships and creating localised inequalities⁵¹. Whilst accepting this to be the lived experience of some user groups, great places can be positioned to facilitate social integration and create inclusive environments⁵² in which chance encounters between communities foster greater understanding⁵³ and encourage the mediation of difference⁵⁴.

The need for intentionality does not guarantee the desired outcomes of greater inclusion, equity and sustainability. Thus, the notion of place capital needs to include these factors in any Framework derived to help all attributes to be measurable and thus be part of any place-based professional outcome. Only by creating such a measurable place capital Framework can it be related to health capital and hence be a driving force in a more integrated approach to urban policy. Figure 1 proposes such a Framework for assessing place capital within a bounded geography to ascertain the depth of its elements, its associated attributes that help explain these elements, and how these can be measured to identify where strategic or tactical intervention could best be targeted to drive improvement. The traditional place design approaches and the new place context approaches are integrated into the Framework.

CASE STUDIES USING THE FRAMEWORK

The paper has developed the conceptual basis for understanding how place capital can be best defined to enable a full understanding of traditional design factors and newer factors such as inclusion, equity, and sustainability. This Framework has been applied to a range of places across multiple cities and is illustrated in the following three Case Study boxes that provide examples of three great places studied in detail. They can be seen

PLACE ELEMENTS	PLACE ATTRIBUTES	PERFORMANCE MEASURE
Respect for Nature <i>Biophysical characteristics with high ecological value and strong environmental stewardship.</i>	Availability and Diversity	Proximity and useability of green blue space
	Biodiversity and Habitat	Variety and extent of habitat
	Vegetation	Extent and health of tree canopy
	Sustainable Operation	Waste, energy and water management
Human-Centred <i>Human welfare, equity and convenience are embedded in planning, design and long term operations.</i>	Connected	Public/active transport and walkable
	Safe and Comfortable	Human scale, lighting and wayfinding
	Good Local Amenities	Retail, health and recreational needs
	Accessible and Affordable	PWD accessible and cost of coffee
Memorable <i>Of its place and locally distinctive. Expresses identities and practices of its communities.</i>	Authentic	Clear purpose and character
	Public Realm	Quality and diversity of network
	Creative Expression	Public art, buskers, and markets
	Tells our Story	History and multi culturalism
Vibrant <i>Vitality derived from a mix of uses and experiences that are relevant to diverse user groups.</i>	Mix of use and opportunity	Functional land use, synchronicity
	Out of Hours Activity	Active and inclusive evenings/weekends
	Cultural and Civic Assets	Depth and diversity of assets
	Meaningful Experiences	Depth and range of experiences
Actively Managed <i>Well maintained, collectively curated with inclusive decision making throughout planning design and operations.</i>	Well-maintained	Clean and in good working order
	Events	Well curated and at a range of scales
	Place Governance	Place based and participatory
	Inclusive community	Diversity of users and businesses

Fig. 1 Place capital assessment framework. Place capital can be explicated as a series of separable elements and attributes, each of which can be measured individually to reveal aspects that are strong and those that can be further advanced to increase their cumulative benefit to health capital.

to illustrate the benefit of the Framework and also begin to show the conceptual links between place and health that are further developed below. The quantitative data associated with the place attributes proposed in Fig. 2, have been collected and analysed to enable place capital to be better defined and will be part of future publications showing the strength of this connection using the full data base of urban places.

Box 3 sets out a case study of a great local place in London, reflecting many of the attributes in the place capital assessment framework. It demonstrates a range of activation processes and outcomes that can be related to the building of place capital and therefore health capital. Given the extent of urban transformation envisaged, physical and emotional displacement were immediately identified as potential impacts for local resident and businesses communities surrounding the site. In response, a longitudinal programme mapping and engaging with impacted residents, business and commuters was embedded into the development process from the outset, and their input resulted in profound changes to the proposed masterplan. The regenerated Elephant Park neighbourhood has built its resulting social licence to operate on a shared commitment to ecological restoration, environmental stewardship and inclusion - re-establishing the connection between nature, place and people. Its mixed tenure community is embedded in green streets, benefitting from the preservation of more than 120 established trees which collectively create a sense of continuity in the landscape. Further, it orientates around the centre piece of a new park featuring mature trees, green open space, a community centre (the Tree House) and a heuristic playscape (Elephant Springs).

The collective planning, design and activation of this park was central to building trust between the diverse community groups, the council and the private sector developer. Ultimately, this underpins the delivery of a high ecological value and equitable local destination that has contributed to negotiating co-existing senses of place, recreating bonds of attachment and promoting social cohesion in its evolving local community. The natural assets are supported by street-based active play and public art elements interspersed throughout the neighbourhood encouraging

incidental activity and punctuations of creativity; this legacy of cultural integration was reinforced in the early stages of the development by the interim Artworks, public library and start-up cluster which ultimately transferred into a permanent home within the new neighbourhood. Although well serviced by public transport, the delivery of a new pedestrian-prioritised street network traversing the district and connecting into adjoining communities has enabled active transport, and created an environment and experience that privileges walking and activates the public realm.

Box 4 reflects a great place at a metropolitan scale in Italy, the regeneration of a railway yard and the creation of a new urban parkland located approximately one kilometre from Milan Cathedral. The development of Porta Nuova as a precinct was catalysed by the delivery of a 'green lid' comprising 290,000 m² of engineered deck spanning a rail corridor and an arterial road. This structure has reconnected three neighbourhoods, Garibaldi, Varesine and Isola, created green 'glue' and enabled the delivery of a major green urban asset, the Biblioteca degli Alberi di Milano (BAM).

The prevailing sense of place at Porta Nuova is grounded in the quality of the natural assets that have been created, a suite of landscaped areas or 'rooms' each of which is differentiated by its planting and materiality. The extent of tree canopy, species and habitat diversity and green open spaces are important mediators of the human experience, creating a cool, and walkable environment with high levels of biodiversity that responds to the innate biophilic need for connectedness in nature^{55,56}. The diverse network of open space delivers expanses of grass that encourage active recreation, provide structured and heuristic playscapes for children with a water play experience – that is equally a sculptural installation. In keeping with its city-wide function, the precinct is highly activated with over 200 cultural events annually and a portfolio of activations that range in intensity and scale. Porta Nuova is successful as a visitor destination and a new marker of contemporary Milan's identity as a city of design; nonetheless, it remains grounded in the needs

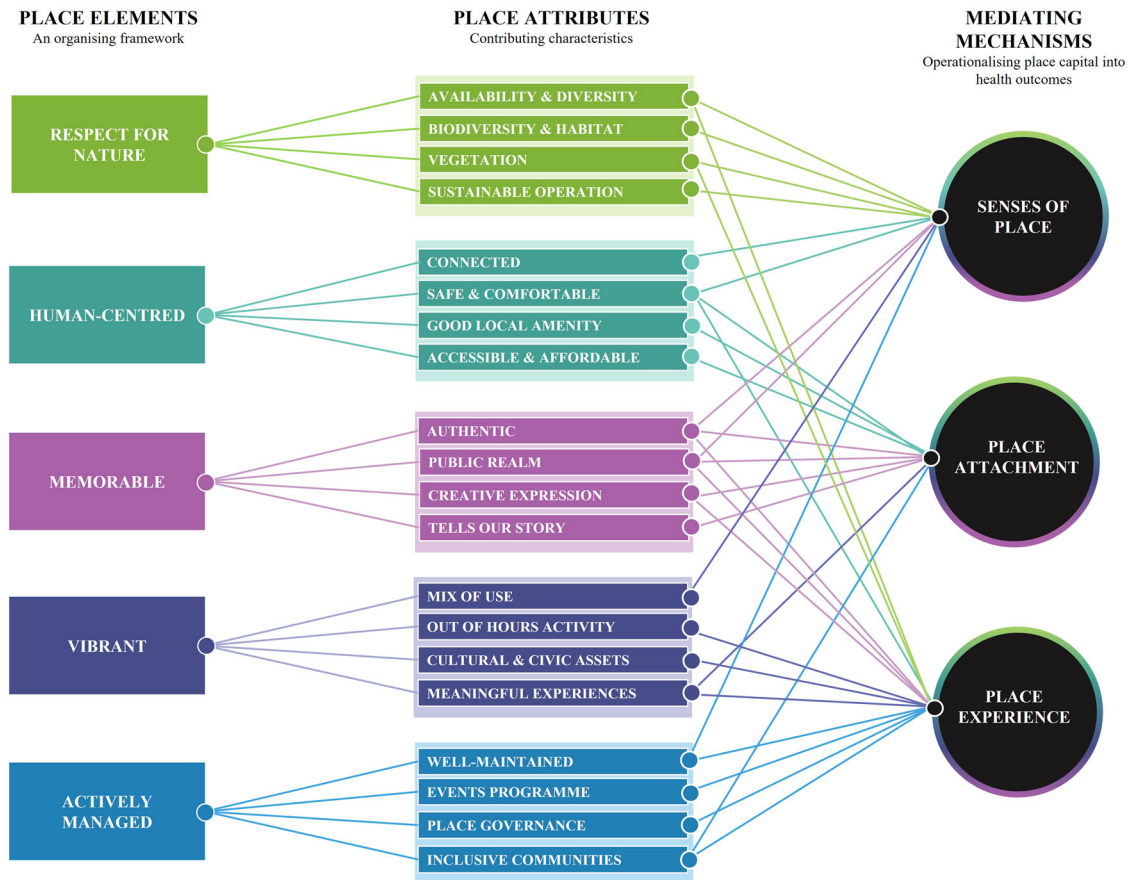


Fig. 2 Exploring the anatomy of great places and the operationalisation of place capital. Great places are a function of the unique interplay between physical assets, experiences, memories and relationships at a given location. High levels of place capital are formed and sustained by the integration of key elements and attributes; and operationalised through the mediating mechanisms of senses of place, place attachment and place experience.

Box 3 A Great Place at Elephant Park, London SE1 and SE17



Credit: Kate Meyrick 2019, 2022; additional photographs supplied by Gillespies, UK and used with their permission.

Located in the London Borough of Southwark and less than 2 km from the UK Houses of Parliament, Elephant Park represents the large-scale regeneration of the former Heygate Estate. The new high-density mixed-use neighbourhood is distributed across three contiguous sites and includes 3200 tenure-blind homes of which more than 25 per cent are social-affordable.

Box 4 A Great Place at Porta Nuova, Milan

Credit: Kate Meyrick 2022

Porta Nuova in Central Milan is a 29-hectare city shaping urban regeneration project that unifies three neighbourhoods on the fringe of the CBD. Leveraging a multi modal transit exchange, Porta Nuova today is a mixed-use precinct combining education, culture, residential, retail and headquarters in commercial office buildings, integrated with an established social housing community. A 10-hectare parkland is the unifying feature that enables the local connectedness and facilitates active transport.

of local people and functions as a back garden for the high density, mixed socio-demographic community that surrounds it.

The public realm design weaves urban plazas and socialisation spaces, cultural assets and civic amenities into the recreational open space (BAM) providing multiple mechanisms for mediating social capital and cohesion between diverse community cohorts. The extended hours and synchronous mix of uses across the precinct includes multinational corporations including IBM, Uni-Credit and Pirelli, complemented by residential apartments, hotels, convention infrastructure, cultural institutions, retail and dining offers. The business and visitor audiences integrate seamlessly with local students and residents drawn from a range of socio-demographic backgrounds, to form an inclusive, engaged community – continuously negotiating and renegotiating their multiple coexisting senses of place as the precinct and their lives evolve.

Box 5, Paya Lebar Quarter, illustrates how a great place can be created in a new suburban area. It is the commercial and retail anchor for one of Singapore's designated growth corridors, its intensive development over the last decade being precipitated by a move to decentralise commercial activity out of the downtown to create more sustainable employment patterns. It has an important role as the civic and lifestyle hub for the fast-growing local community, acting as a social integrator between them and residents of the established adjoining neighbourhoods of Joo Chiat and Katong. Central to this role is an extensive programme of events and meaningful experiences, delivered through a diverse range of indoor and outdoor social settings that are significant places of association for local residents in the evenings and at weekends that drive community cohesion. The programming of these spaces has paid attention to the importance of authentic engagement with youth and creating safe and welcoming environments for socialisation and entertainment that are aligned with their lifestyle interests and cultural preferences. The covered plaza with its town square functionality is a key ingredient creating a sense of arrival, point of orientation and gathering space for the wider precinct; it also functions as an identity-marker for the wider neighbourhood building its

distinctiveness. The affordable food and beverage offer is an important factor in fostering attachment, being distributed across a range of communal settings that are well aligned to the profile of the local community and encouraging the shared social life that underpins traditional kampong life. During its construction the project team worked assiduously to form relationships with traditional communities surrounding the site, creating social and economic connections with them and ensuring that their heritage and cultural narrative were understood. This started a process of shared reflection through which past and present place meanings could be explored and accepted.

The prevailing character is geographically defined by the arterial road network however, the impact of traffic on the human experience and quality of environment has been offset by biophilic interventions including green streets and diverse planting treatments^{55,57}. The precinct also benefits from the advanced sustainability measures that are embedded in its built form and operational practices. These include onsite solar, an air purification system, rainwater capture and recycling through a rain garden cascade that discharges into the Geylang River. The active transport network and public end of trip facilities delivered as a core component of the precinct, encourage walking and cycling – conferring associated health benefits. The significance of physical exercise in the context of this young, family-oriented community are also reflected in the provision of both sporting and play-based infrastructure.

PLACE CAPITAL AND HEALTH CAPITAL NEXUS

To relate place capital as outlined in the Framework to health capital, it is necessary to show how each of the elements and attributes of place capital can be related to three mediating mechanisms used in the design professions. These will then be explained in more detail to see their health outcomes and hence suggest the linkages that can enable more quantitative assessments.

Figure 2 takes the elements and attributes from Fig. 1 and relates them to the mediating mechanisms of: sense of place,

Box 5 A Great Place at Paya Lebar Quarter, Singapore

Credit: Kate Meyrick 2022; additional photographs supplied by Lendlease and used with their permission.

Paya Lebar Quarter is a 4-hectare mixed use 'suburban' regeneration project situated in a growth area mid-way between downtown Singapore and Changi airport. It is integrated with the MRT interchange serviced by the East West and Circular lines and has been developed according to 20-min city and transit-oriented principles, comprising primarily commercial, retail and entertainment uses complemented by 429 apartments. Its active transport overlay connecting the hub into the surrounding residential community is a distinguishing feature.

place attachment and place experience. In this paper sense of place (referred to from here on as senses of place due to the need to recognise the inclusive variability in experience of any place) is the mechanism that situates a given location on an individual or collective cognitive map⁵⁸. It comprises natural and manmade attributes that, when woven together, create the distinctive character and identity that distinguishes places one from another. Place attachment refers to the affective bond that forms between an individual or community and a specific place⁵⁹ manifested through a combination of observable cognitive, physiological, and behavioural characteristics or processes⁶⁰. When we are intimately attached to a place and live or work in proximity to it, we flourish⁶⁰, a fact that was originally contemplated by Aristotle in his observation that all things function optimally in their proper place. Place experience reflects the social, cultural, creative, and recreational activities that are enabled by a place, together with the celebrations and events that are hosted there. The functional mix of uses drives the purpose and activation of a place; the more simultaneous activities it can support or the more 'synchronous'²³ it is, the greater its vibrancy.

The paper has suggested there is an intrinsic connection between health and place, both in its geographic and psychosocial construct. Access to, sense and experience of place appears to be fundamental to physical and mental health or wellbeing⁶¹ and mediates its relationship with quality of life⁶² or life satisfaction⁶³ as demonstrated in literature and in the case studies. Fig. 2 suggests that the three mediating measures of place capital could collectively comprise the mechanism through which the social determinants of health are operationalised and shape the agentic factors that influence personal health cultures, behaviours or decision-making processes. These will therefore be further explored to enable a better understanding of the links between place capital and health capital.

Within the planning and design profession the contribution of traditional structural elements such as density, the co-incidence of land use and transport or provision of green space are well recognised^{10,12}. However, the psychosocial benefits of great places with high levels of place capital, are less well understood and appreciated. Yet these factors represent significant

opportunities to act on the drivers of agency or psychological wellbeing that are essential to building a positive health culture and increasing life satisfaction. The opportunity for planning and design to influence these health outcomes requires better understanding of how the place-health relationship proposed in this paper is operationalised. The paper therefore moves towards conclusion by pursuing some of the potential nexus issues in the linkage between place and health capital.

Consistent health data demonstrates that the way places are designed can have an immediate and long-term influence on chronic or lifestyle conditions including obesity, type 2 diabetes, heart disease, blood pressure and asthma, while improving resistance and recovery rates⁶⁴. Well-designed places operate on psychological health to reduce the level and experience of loneliness, anxiety, stress, depression, and anger while improving cognition, restfulness, and self-esteem⁶⁵. The higher the levels of place capital that an individual has access to locally, the greater the sustained level of advantage in forming, supporting, and replenishing health capital throughout life and across the community¹⁰. Such linkage is not inevitable as specific elements have differential benefits and these benefits may be experienced variously between cohorts. Given the established significance of great places to the relative competitiveness and appeal of a city, and their potential to both protect and promote health capital, the building of understanding on how these benefits can be operationalised is critical to optimising how they are planned, designed, managed, or indeed enjoyed together. The three principal mechanisms outlined in Fig. 2 - senses of place, place attachment and place experience - have been proposed as mediating the effect of place capital on physical or psychological health, quality of life and life satisfaction. They are interconnected and whilst they are most potently realised through their collective application, each has singular benefits to confer, and these are explored further in the following sections to show how they appear to create health capital. Further research on these nexus issues would help better define the need for natural and human qualities in sense of place, place attachment and place experience.

Senses of place

Senses of place is a much-studied construct that draws on a diversity of theoretical perspectives^{66,67} yet has no singular theoretical definition⁶⁸. The traditional and essentialist perspective argues that sense of place is fixed, has evolved slowly over time, and is commonly understood; its stability leading to strong people-place bonds⁶⁶. Latterly a more progressive school of thought proposes fluidity, allowing for multiple senses of place to be constructed according to knowledge systems and cultural beliefs, these plural senses of place can coexist or be contested⁶⁷ between groups, at different life-stages⁶⁹ and over time. In this paper we are taking what could be characterised as a 'progressive essentialist' approach which accepts that a place can be endowed with physical elements that are slow to evolve or hard to change (for example urban design, built form, heritage assets and natural features) and that such elements coincide uniquely in this locale to create the qualities and characteristics that define its singular identity and character. Equally we acknowledge the fluidity of people-place bonds that increasing allow for multiple senses of place, or the privileging of one narrative of meaning to the detriment of others. This paper, however, seeks only to position senses of place as foundational to good physical and psychological health through its significance in supporting individual identity and self-esteem⁷⁰ both of which are essential to the development of social capital and community spirit⁵⁸. In so doing, we recognise that these benefits are only realised equitably when all senses of place are enabled to coexist or where competing interests can be successfully negotiated.

We also acknowledge there is an equity element in senses of place that needs to be recognised in developing place capital and health capital. There is a deep significance in ensuring that all voices are heard through the processes of intentionally co-creating great places, such that the senses of place important to more marginalised communities are recognised and respected, as shown in all the Case Studies above. Urban design influences how people perceive and experience urban environments through whether they are easy and enjoyable to move around or dwell within, and whether they are supporting the place identity and reinforcing the behavioural patterns and choices of all its users.

Sustainability is another deeper and less traditional factor that is fundamental to how senses of place relate to place capital and health capital. Planning and design strongly influence this. Urban Fabric Theory⁷¹, supports this assertion confirming that more compact walking and transit fabrics promote more social and sustainable outcomes, having a direct impact on human interactions, aesthetics and air quality. Indeed, the extent to which a place is accessible and connected by active or public transport⁷² both enables and encourages walking⁷³; and as such is fundamental in addressing the challenges associated with avoidable lifestyle-related illness^{74,75}.

Heritage assets and iconic architectural buildings, contribute to the distinctiveness of a place – strengthening its identity⁷⁶ and reflecting the origins of a place and its potential future positioning – and thus contribute to senses of place. These attributes ground a place temporally and spatially, creating individual and collective patterns of values and behaviours that can support physical health and psychological wellbeing throughout life⁷⁷.

The quality and quantum of natural assets make a major contribution to senses of place whilst ecosystem health is causally connected to human health^{78,79}, for example in the presence of green and blue infrastructure and the ecosystem services associated with them which directly influence air-quality and counteract the urban heat island effect with strong health outcomes^{80–82}. Mental health theories are compelling when considering the contribution of nature to place capital and its operationalised effects on health, especially E. O. Wilson's biophilic thinking about the innate or evolutionary instinct that drives

humans to connect with the environment⁸³. The social movement created around such biophilic cities thinking has grown in recent years to include a range of psychological theories that are related to how nature and human health are related in urban places⁸⁴. For example, Attention-Restoration theory positions the restorative impacts of natural environments on levels of directed attention, improving emotional state and cognitive performance⁸⁵; while Stress Reduction Theory⁸⁶ relies on the ability of non-threatening nature-rich environments to decrease arousal, reduce cortisol levels, and promote both improved stress reduction and immune functioning. The presence of green and blue infrastructure and the ecosystem services associated with them directly influence air-quality and counteract the urban heat island effect. The extent of grass, water, and vegetation together with the biodiversity and habitat that they support combine in their biophilic function with its protective impact on physical and psychological health^{83,87} improving cognition⁸⁸, reducing mental fatigue⁸⁸ and enhancing energy levels, wellbeing⁸⁹ and quality of life through access to exercise and play⁵⁸. Contact with and connectedness to nature act on both hedonic and eudemonic wellbeing, or in simple terms finding fulfilment and enjoyment in life⁷⁹, nature immersion being good for personal growth, self-esteem, vitality, self-regulation and social competency⁹⁰, regardless of physical activity or social connectedness. Further, it is suggested that these features are critical to supporting community health during times of extreme disruption and crisis⁹¹, implying that the resilience of, and health capital in, those communities with access to high quality natural environments within their local area, may have been boosted in comparison to their open space disadvantaged counterparts in other neighbourhoods.

Whilst this suite of benefits its well established in literature, it is important to recognise that place-based planning such as urban greening in the context of market-led development or regeneration programmes can result in benefits that are not equitably shared across all community cohorts⁵¹, causing both diminished senses of place and even social displacement for some groups. When a place is modified to such an extent that it becomes inauthentic or 'Disneyfied'⁹² its potential health benefits to the local community are diminished and it may be considered to have degraded its senses of place despite retaining some measure of biophilic benefits.

Place attachment

Place attachment reflects the affective connection, emotional and cognitive resonance that binds people and places. As such it has a particular association with mental health, wellbeing, and life satisfaction being critical to trust⁹³, community spirit⁹⁴ and social cohesion⁵⁸. It is the bridge between the physical fabric that defines senses of place and the emotional response it evokes in both individuals and communities⁹⁵; the more immediate and intimate the emotional connection, the stronger the bonds of attachment⁹⁶ and therefore the benefit that can be conferred. Place attachment is high when we feel that we belong, that our needs are met and our voice is heard, that we share an emotional connection with that place and its other users through shared memories and activities⁹⁷. In this way the meaning of a place makes an important contribution to building and maintaining healthy levels of attachment⁹⁸, always recognising that individuals and communities may ascribe different symbolic meanings to places simultaneously. In acknowledging the potential plurality of sense of place, it is obvious that the ensuing protective benefit of attachment will be diminished for community actors whose sense of place is not acknowledged or negotiated successfully⁹⁹.

As with senses of place, natural assets, specifically compact green spaces and pocket parks, play an important role in supporting place attachment⁶⁰, fostering empathy towards the environment and promoting the development of social connectedness.

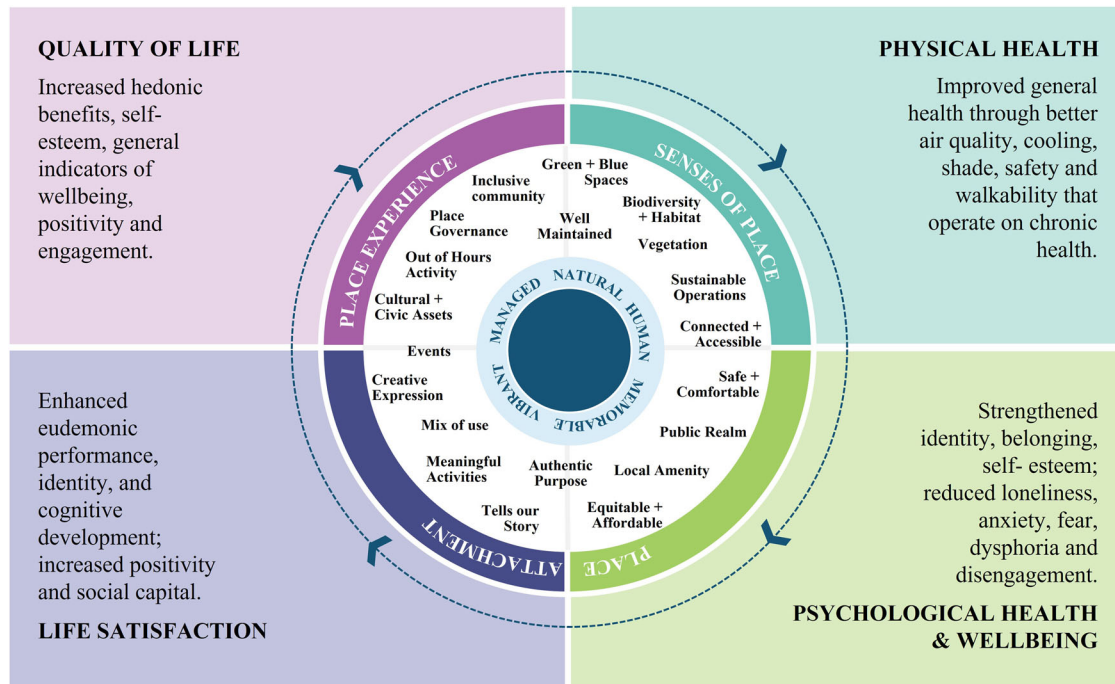


Fig. 3 Summarising the positive interaction of place and health capital. High levels of place capital confer benefits to whole of life health capital; great places support healthier people and increase their quality of life.

The autobiography of a place or a community's shared understanding of its history, hopes for the future, challenges, celebrations, and collective memories, all build its cultural and psychological safety and promote a general feeling of belonging¹⁰⁰. Social interactions that arise from the higher levels of trust, cohesion and community participation help to create local social networks that operate on psychological wellbeing and address loneliness¹⁰¹. Equally the level of volunteering and membership of community organisations supports eudemonic benefits that are significant to wellbeing⁷⁰ and life satisfaction⁹⁷.

Whereas senses of place can sometimes be appreciated after only a short association¹⁰², attachment is fostered by repeat interactions that establish layers of meaning over time⁷⁶. Just as place attachment has proven benefits to individual and community health capital, equally placelessness and lack or loss of place attachment has negative consequences. First identified as a commentary on post modernism¹⁰³, the lack of place attachment has been associated with increased levels of fear, dysphoria, and dissatisfaction with life¹⁰³, reduced sense of identity and general wellbeing⁵⁸.

Place experience

Place experience is an important facet of the place capital assessment framework because places are in part characterised by what people can do in them; they are enlivened by the practices of everyday life⁹². Experience therefore creates a mediating mechanism for realising health benefits that draws on the elements that deliver vitality or create memories, and that can be amplified by active management or place curation. What the community can be involved with on a daily basis or a special occasion, directly influences quality of life and life satisfaction, building purpose and encouraging fulfilment. Place experience facilitates the depth and inclusivity of social capital inherent in a local area which is a key determinant of health and a driver of health decisions and behaviours at an individual and population level³³.

The extent of third spaces (not home or work) is significant for place experience. These cultural, civic or community assets with

low barriers to participation, increase social interaction, entertainment and creativity which support hedonic drivers of life satisfaction^{70,97}. These places enable cognitive development and discovery at all life stages. The strength and diversity of such place experience is also a formative element with respect to fostering place attachment and building senses of place and can be operationalised variably across all life stages and circumstances.

Overview of nexus

Figure 3 summarises the nexus of place capital and health capital through senses of place, place attachment and place experience. It summarises how these place capital mediating measures (as explored above) can be simply understood interacting with the four fundamentals of health capital from Fig. 4: quality of life, physical health, life satisfaction and psychological health and wellbeing. This relationship is in fact symbiotic, because healthier people are more likely and more able to participate fully in the life of their community and enjoy the opportunities that it provides – thereby increasing its vibrancy and supporting a more granular mix of uses – and hence increasing place capital.

CONCLUSIONS: THE ROLE OF GREAT PLACES IN THE POST COVID-19 URBAN LANDSCAPE

The pandemic experience highlighted the importance of understanding the mediating effect of place capital on human health. Lack of mobility imposed by restrictions created hyper-local citizens. The emotional geography of cities was distorted, and local neighbourhoods became the centre of the universe for literally hundreds of millions of people. The depth of place capital available within 5 km of our homes suddenly became the critical enablers of our health, psychological wellbeing, life quality and satisfaction for extended periods. The extent to which the local places we had access to provided environments and experiences that engaged, sustained, or supported and entertained us was a key mediator of our pandemic experience. The quality of local places both reflected and reinforced social hierarchies by extending or denying cultural, recreational and life opportunities

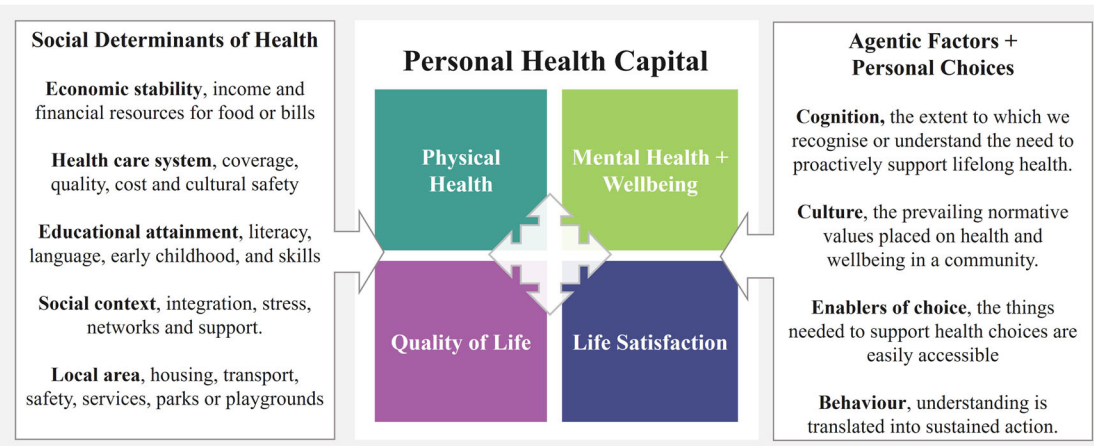


Fig. 4 Summarising the factors that confer whole of life health capital. Health capital reflects the sum of our real and perceived physical and mental health, quality of life and life satisfaction. Each of these components is supported by a series of integrated elements and attributes that are drawn from social determinants of health and agentic factors.

to people based on their post-code. These quality of place differences will potentially continue to differentiate rates of short-term recovery and longer-term resilience in physical, psychological, and emotional terms. COVID-19 and its consequences have illuminated fundamental inequalities in health capital across communities, revealed urban vulnerabilities or deficits in the key capitals that underpin strong city performance²⁸, and temporarily destroyed the social compact between cities and their citizens. The pandemic damaged individual health, wellbeing, cognitive abilities¹⁸, quality of life and life satisfaction; it fractured social bonds, challenged the cohesion of communities, and threatened social capital directly through the impacts of the virus and indirectly through a combination of consequential economic loss, uncertainty, confinement, and reduced mobility. Enough time has yet to pass to analyse, synthesise, or digest data relating to the long-term physical health and psycho-social impacts consequential to the pandemic or our strategies to subdue and manage it.

Equally, however, COVID-19 has provided an opportunity to reimagine urban environments and reframe how to measure the success of cities in the future including the health of urban people and how this relates to the vitality of the places they occupy. It has been a timely reminder that we cannot focus on the elements of natural, social or intellectual capital that are at the forefront of successful cities without also investing in the health and place capital that are their fundamental building blocks. As suggested in this paper the two are vitally linked. Without happy, healthy, and productive people with high levels of social capital, cities are unlikely to sustain a trajectory of positive growth, or equitable development. Healthy people and great places are not only intrinsically connected they are also central to recovery and long-term urban success. Moving forward from recovery to a resilient future, the intrinsic prioritisation of great places is what will distinguish an approach of urban renaissance from one of restoring business-as-usual to a much more obvious focus on local place capital matters. Assigning to place a restorative role and symbolising the human centred philosophy that must be positioned at the heart of urban change, will enable a city to thrive in the post COVID-19 urban context. And it will have improved health capital.

This paper therefore proposes that place is a new form of capital with superpowers that can be leveraged to the benefit of the community, the economy and the natural systems that support them, as well as health. The paper finds that the application of place to health, social and intellectual capital may have a compounding effect of amplifying and accelerating their development together. The converse of this is that low levels of

place capital have a compromising effect on health, wellbeing, quality of life and life satisfaction, and that by depriving some citizens of the boosting impact of place on their health capital, we are reducing their ability to play a full role in the economic, social, and civic life of the cities and communities that exist primarily for this purpose. A place capital assessment Framework has been proposed, incorporating measurable elements and attributes that have an established causal connection to physical and psychological health, wellbeing, life satisfaction or quality of life. This Framework has sought to embrace elements of fixity and fluidity – specifically reflecting the importance of interim use or ephemeral activations. It does not make explicit the potential for multiple senses of place to coexist, but it does encourage consideration of whether the meanings and narratives represented tell the stories that matter and seeks to account for the inclusivity of community participation. The most significant area for further exploration relates to procedural and recognition justice⁶⁷, leaving room for the framework to acknowledge the processes that underpin the development of great places as well as the outcomes that are achieved or the distributional equity of the benefits that are conferred. These themes can be explored further when this framework is tested through cross sectional field studies.

So how can we work collaboratively to realise the potential benefits of place capital on human health and wellbeing, what are the logical next steps? Recognising place capital as an asset that can be leveraged to support the human condition is an important starting point, deepening our shared understanding of how its unique benefits are operationalised and what health gains could be expected. This paper goes some way to achieving this, but the causal implications are complex and hard to unravel. This is an emerging field of inter-disciplinary research and professional practice requiring cross sectional and longitudinal studies to unpack the factors of place capital that most effectively impact on physical health and psychological wellbeing, quality of life or life satisfaction. Worthy subjects for future exploration include: the extent to which stronger levels of place capital are more effective in promoting health outcomes or that individual elements and attributes operate variably on different population cohorts depending on their life stage, ethnicity, baseline health or co-morbidities. By revealing the anticipated social benefits, calculating the potential reduction in the burden of disease and associated value created through driving increased productivity, we can more effectively lobby for public investment to create better places. If the evidence is clear, then it can ease the burden of exponentially increasing medical costs. At present public health expenditure appears to dwarf the expenditure on place.

Of equal importance is how we undertake this research and disseminate its findings. To be effective this must be a shared endeavour wherein health practitioners, policy makers, city leaders, the property industry and community work together. A collaborative process will enable faster knowledge share and position each stakeholder to understand how they can make their most effective contribution, inspiring a new generation of health regenerative and restorative neighbourhoods, high in place capital and founded on the long-term alignment of interests. The conceptual framework that has been proposed in this paper provides one mechanism for exploring place capital in specific locations and equally for mapping inequalities within or between cities. By creating more empirical evidence we can establish baselines and set targets that are meaningful, applying relevant metrics to report transparently on the measures that actually matter.

The first collective wave of COVID-response was oriented towards mitigating the impact of the disease and ultimately beating it, whilst the second rightly focused on economic recovery and re-normalising supply chains. The final frontier must, however, address the fundamental need to build both health and place capital at a local level, restoring and enhancing human resilience to chronic health issues as well as future pandemics or natural disasters. Working collectively is the only way to make a city better for its citizens but understanding the interaction between its urban systems and targeting investment at the root cause of both social inequality and health vulnerability, is important if we want cities not just to be better moving forward – but great. During this period of sustained urban growth and change, there is real potential for the next wave of public and private investment in precincts, neighbourhoods and suburbs to work collectively in delivering shared value in both place and health capital.

DATA AVAILABILITY

The field data collected to support the explication of place capital are available on request from the corresponding author [PN] upon reasonable request.

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Competing interests

The authors declare no competing interests.

ADDITIONAL INFORMATION

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