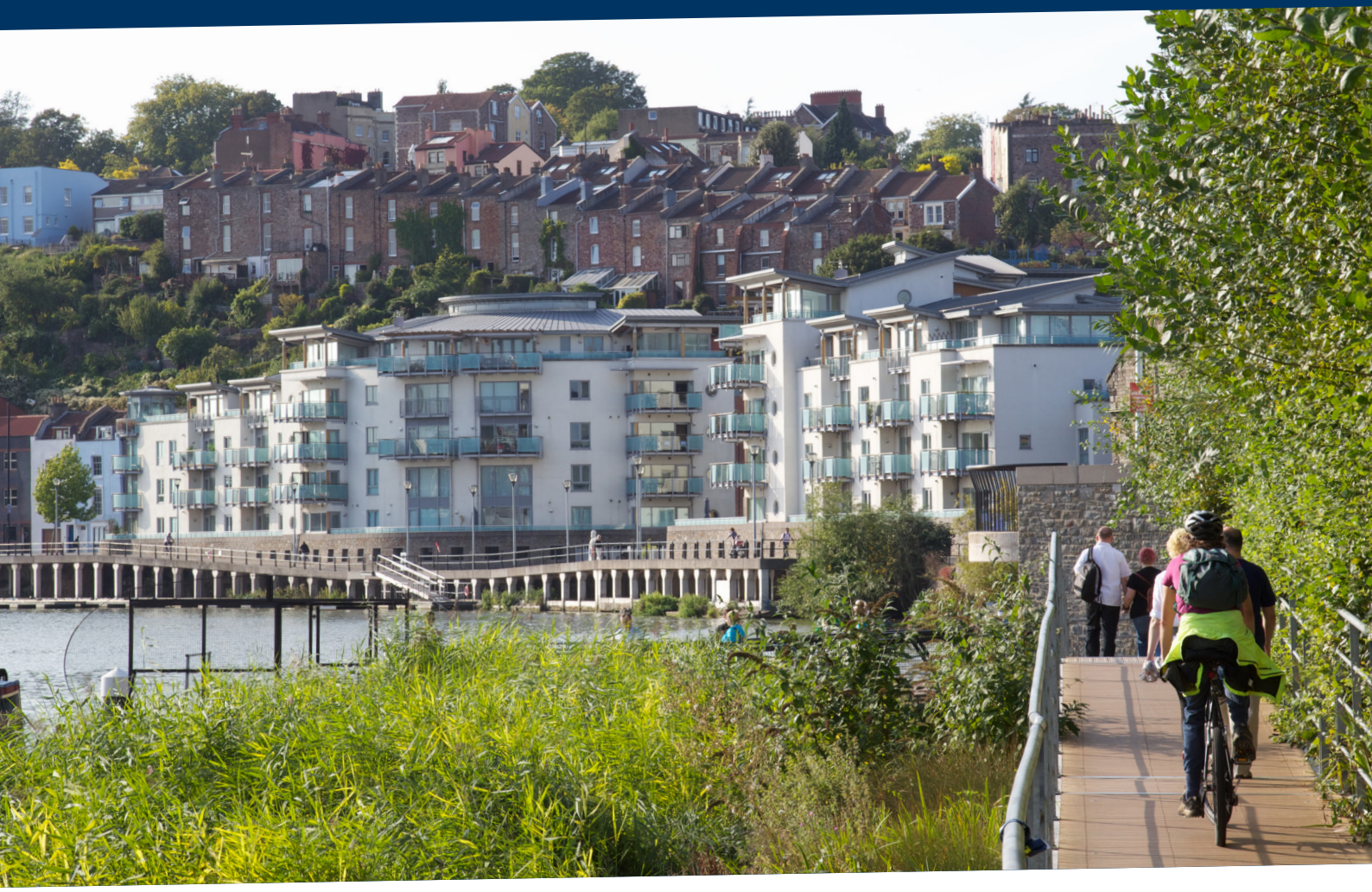
TRUUD

February 2024

Phase I Report

How can we prevent non-communicable disease and health inequalities resulting from UK city property development and transport planning systems?



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UKPRP
Prevention Research Partnership

About this report

This report is a summary of methods, data and findings for the first phase of the TRUUD research programme.

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EXECUTIVE SUMMARY

TRUUD is a major five-year research programme that aims to 'tackle root causes upstream of unhealthy urban development'. It is funded by the UK Prevention Research Partnership, who fund research in order to reduce *non-communicable* diseases (like diabetes, cancers, respiratory illness, anxiety and depression) and health inequalities. This interim report summarises what has been learned so far on TRUUD and describes the interventions now being taken forward.

Through the early development of the TRUUD research proposal, the newly forming research group set out six main foundational understandings - that:

i. There is substantial and increasing evidence linking non-communicable diseases to urban environments
ii. The private sector, supported by central Government, is the dominant force in the delivery of UK infrastructure
iii. Fast growing cities are where material change is taking place
iv. How we value health 'externalities' is a critical gap in evidence, though these valuations will not suffice on their own
v. The public has relatively weak voice in urban development, despite considerable amounts of engagement of varying kinds, requiring innovative new ideas
vi. Research across multiple interacting and complex systems like these requires new approaches to undertaking research that go beyond the traditional.

Phase 1 was split in to four main areas of work: i) mapping and understanding urban decision systems; ii) valuing urban health externalities, iii) intervention selection, and iv) reflection on research 'operationalisation'.

The primary data gathering and analysis in phase 1 involved interviews with 132 participants alongside targeted systems workshops, continuous engagement with two city and combined authority case study partners (via researchers-in-residence), as well as involvement of the newly formed Public Advisory Groups and External Advisory Board. The research team identified 27 themed problem areas: eight from the interviews, eight from the pilot and 11 from the systems workshops (diagram on page 8). They spanned five main decision areas: central government, private sector, law, spatial planning and public involvement.

A long-list of 56 intervention areas was identified, clustered by scale, sector and 'problem holder'. Through a process of prioritisation, including with expert advisors and our public advisory group, and based also on the expertise of the research team, we identified the following seven main areas of intervention that our group could take forward, for which we provide in this report the aims, outcomes and key stakeholders:

i. National Policy (Appraisal and Inter-departmental Coherence)
ii. Law (Public Sector Legal Capacity)
iii. Private Sector (Corporate Mindset)
iv. Private Sector (Real Estate Investment)
v. City-region (Transport Strategy)
vi. City (Major Property Development Planning)
vii. Deliberative Public Engagement (Inequality and Controversial Issues)

All areas other than the law intervention will be using, to greater or lesser extent, our economic valuation tool as a core element of the intervention alongside videos showing the lived experience of those living with linked health outcomes.

The primary activity in the valuation workstream was the ongoing development and testing of a tool linking over thirty aspects of the urban environment to eighty-three identified health outcomes and then to economic cost. This was supported by specific additional work on: air pollution and low emission zones, depression, overheating flood risk, local survey work in Bristol and will be added to further by finer grain data on Greater Manchester. The tool allows the user to quantify, and express in monetary terms, the health impacts associated with a change in the urban environment, and so to feed into a broader economic appraisal of a proposed development.

A separate, but critical area to emerge from the research work was in the arena of research 'operationalisation'. We reflect on the challenges in relation to: management and foundational understandings, coordinating large-scale disciplinary diverse interview teams, conducting research-on-research, and undertaking systems analysis of large, qualitative data sets. Through a process of critical reflection, we identify six headline recommendations relating to: time/resource, funding, uncertainty, communications, psychological safety and critical reflection. We also describe work being undertaken as part of the UKPRP Community of Practice on: Impact-Orientation and Meta-Research.

PROJECT AIMS AND RATIONALE

The 'grand mission' of TRUUD is to "*enable a paradigm shift in how health is valued and integrated at root-cause decision-making points*". The mechanism for achieving this is to "*develop and test a replicable multi-action intervention in two urban challenge areas: transport and property*". See Figures 1 and 2 below for an early illustration of the problem space and proposed intervention.

A three-year pilot, UPSTREAM[1], had identified almost 200 potential barriers and opportunities to unhealthy urban development, themed under eight main headings: (i) valuation, (ii) finance, (iii) land, (iv) partnership, (v) politics, (vi) public realm, (vii) policy, and (viii) capacity (Black et al, 2021). This helped to shape the disciplinary expertise of the research team and the overarching design of the project. Specifically, pilot interviews suggested that: decision-makers were likely aware of most of the main health issues; they recognised health is not adequately accounted for in planning; there is considerable support for non-market valuation, but only if there is a level playing field.

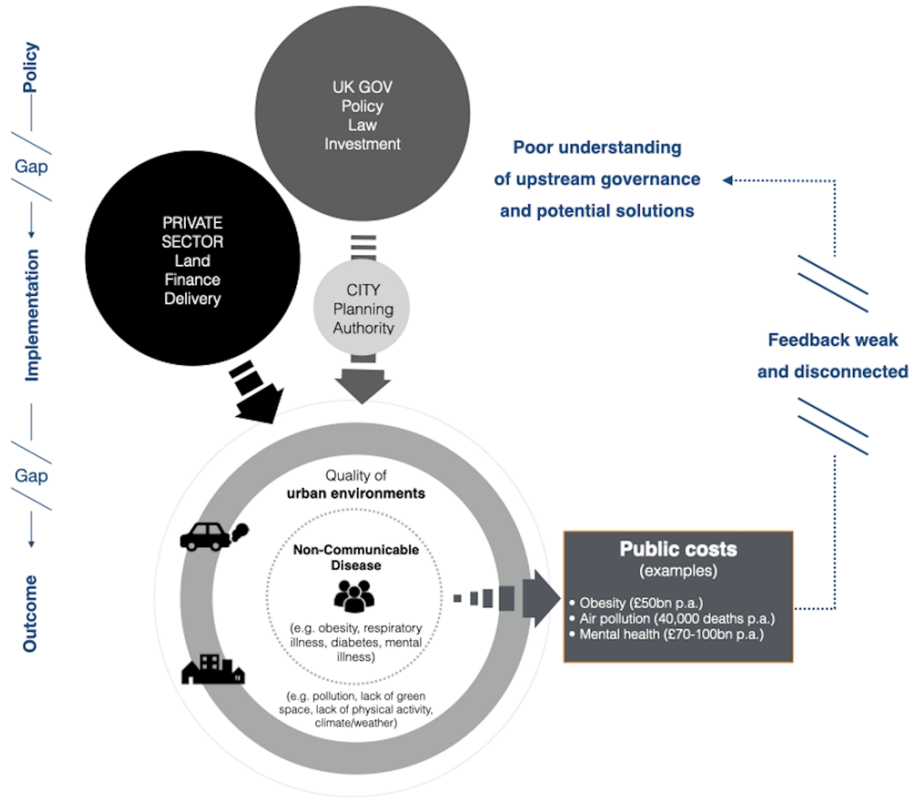
Following the pilot and the bid development with the new, wider research leads group, the rationale for TRUUD was therefore based on the following main areas of understanding (Black et al, 2022):

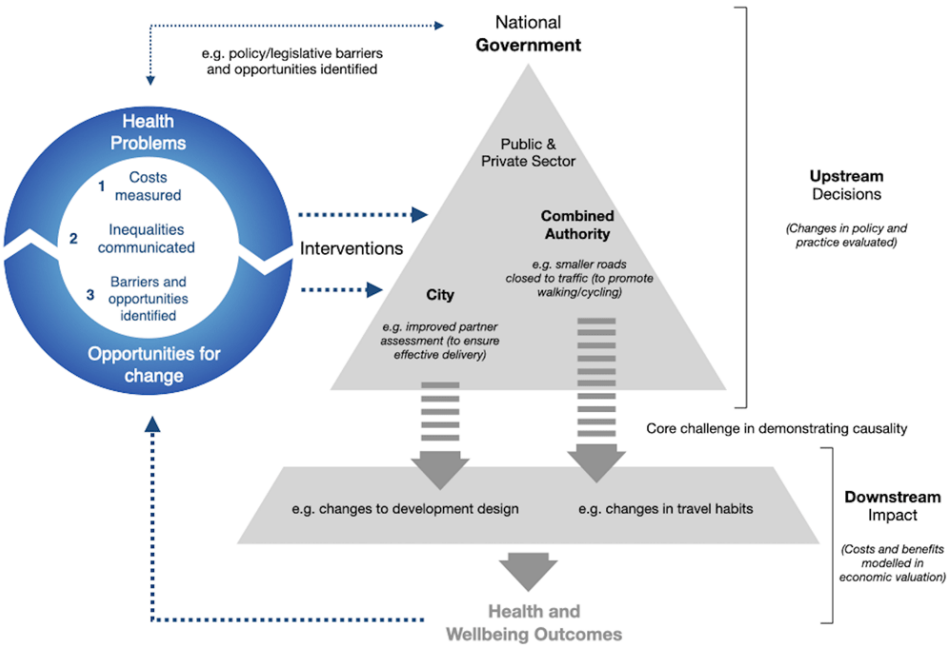
1. *"Upstream" determinants*:
    a. Non-communicable diseases are strongly linked to the quality of urban environments ("mid-stream")
    b. Decision-makers further upstream have most influence on their quality
    c. The private sector is the primary and dominant force in the delivery of UK infrastructure
    d. Fast growing cities are where material change is taking place.
2. *Economics and valuing health*: How we value health 'externalities' is a critical gap in evidence, though these valuations will not suffice on their own.
3. *Inequality and public involvement*: The 'public' has relatively weak voice in urban development, despite considerable amounts of engagement of varying kinds, requiring innovative new ideas.
4. *Complexity, causation and the new approaches*: Research across multiple interacting and complex systems like these requires 'new approaches' to undertaking research that 'go beyond the traditional'. [2] [3]

The intervention was to be made up of three main parts:

1. Economic valuation of changed health outcomes, linked to those responsible
2. Opportunities for change identified and tested with users and stakeholders
3. Clear representation of the life experience, views and wishes of those experiencing health inequalities.

[1] UPSTREAM (2019) Project Website. Available from: https://urban-health-upstream.info/
[2] Skivington et al (2022) A new framework for developing and evaluating complex interventions: update of Medical Research Council guidance. theBMJ. https://doi.org/10.1136/bmj.n2061
[3] UKPRP (2017) Visions and objectives. Available from: https://ukprp.org/resources/





Figures 1 and 2: Initial illustrations of the problem (above) and proposed solution (below) taken from Protocol[4]

[4] Black D, Ayres S, Bondy K *et al.* Tackling Root Causes Upstream of Unhealthy Urban Development (TRUUD): Protocol of a five-year prevention research consortium [version 2; peer review: 3 approved]. Wellcome Open Res 2022, **6**:30 (https://doi.org/10.12688/wellcomeopenres.16382.2)

Mapping and Understanding Urban Decision Systems

MAPPING AND UNDERSTANDING URBAN DECISION SYSTEMS

Preliminary interview analysis revealed broad patterns and trends and key follow-on questions, alongside a consolidated list of headline problem spaces – Figure 3. These problem areas, or 'themes', complemented those identified in the pilot and in the systems mapping workshops.

The group identified 27 themed problem areas and agreed the need to focus on: underlying causes, short-termism, communication, decision tools/processes, opportunities (not just problems) and dominant political 'narratives' (e.g. climate, levelling up, Covid).

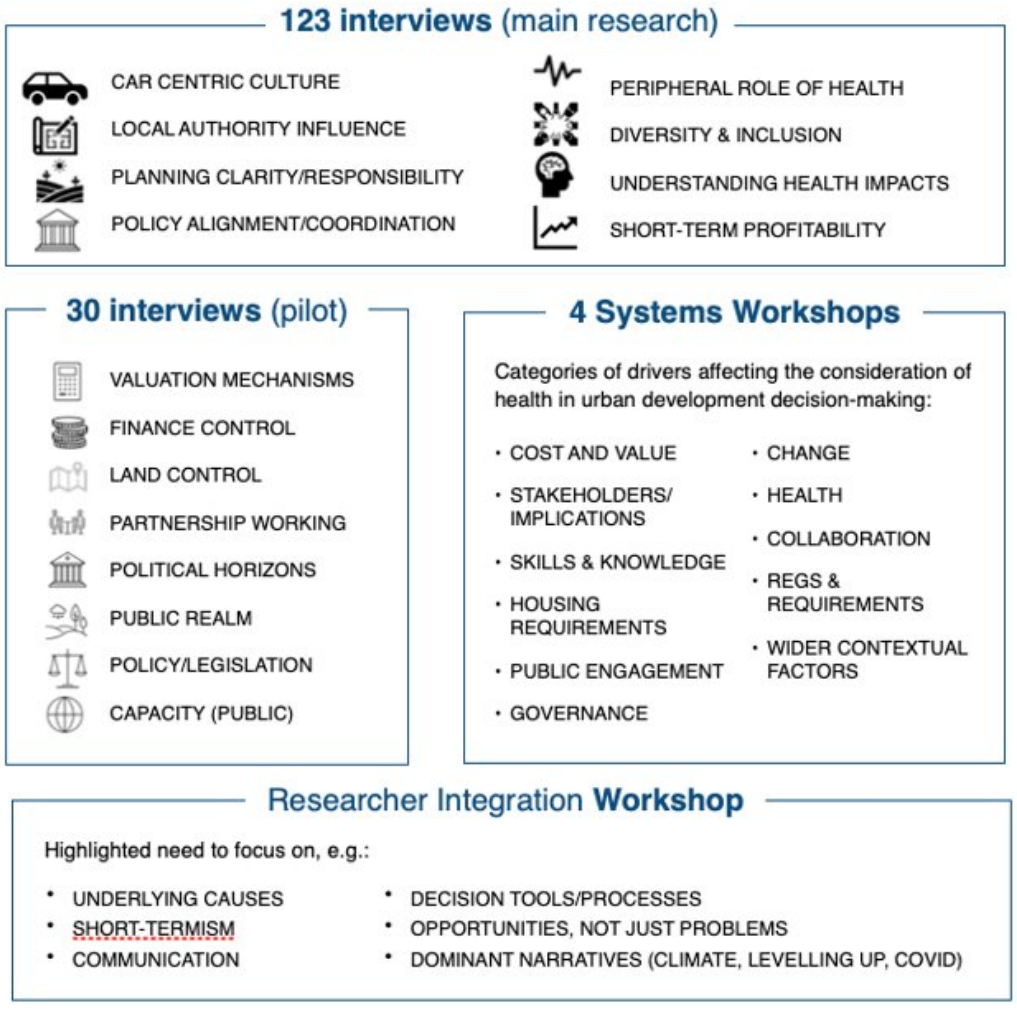


Figure 3: Primary problem areas identified through four different processes – interviews (main research), systems workshops, pilot study, and internal (researcher) integration workshop

CENTRAL GOVERNMENT

This research strand developed in to four main themes of evidence: i) review of "health" as priority in government housing and transport policy; ii) health in the levelling up agenda; iii) how value is operationalised by policy-makers in urban development; iv) how evidence is best packaged and received.

- **Health as priority:** (Bates et al., 2023a) The evidence suggests that: urban policies in UK and globally frequently fail to produce healthy towns and cities; health is largely absent in narratives shaping urban development; documents assume health is an indirect outcome through achieving other objectives (e.g. decarbonisation); explicit health objectives and measures must be integrated in urban policies; governments in UK and internationally urgently need to prioritise population health.
- **Health and levelling up:** (Ayres et al., 2023) Long-term investment in healthy urban development and incorporating the wider determinants of health in the levelling up agenda could play a key role in improving population health and tackling inequalities. However, our findings reveal that despite ambitious targets for reducing regional disparities in the UK and accompanying rhetoric highlighting the importance of preventative health measures, national government's levelling up plans are insufficient to reduce health inequalities. Further devolution of powers and simplified funding mechanisms, alongside greater use of local health evidence and community voices in decision-making are key to levelling up public health in the UK.
- **Value:** (Barnfield, 2023) Discussions questioned the concept of value, drawing on performativity and diagrammatic thinking, with a prevailing conception of value in urban development that prioritises short-term, financial outcomes despite an awareness of the need to be sensitive to temporal and spatial concerns.
- **Types of evidence:** (Bates et al., 2023b) With regards the types of evidence that are influential on urban development actors, storytelling approaches persuade actors across the system, but must be backed with data to have credibility. There appeared to be some differences between sectors: consistent and strong preference in national government actors for quantitative data to show credibility, and persuasiveness of adverse health outcomes (child health, mortality) for actors with a duty of care. Evidence that demonstrates economic outcomes were seen as important. In the private sector, evidence that shows a commercial advantage from changing health is very influential. Changes in regulations/ governance required to allow actors across the system to include health evidence alongside other regulatory requirements in decision-making.

PRIVATE SECTOR

Numerous themes have emerged from our interviews with corporate actors and are in the process of publication. Four themes have been taken forward in the first set of publications:
i) short-termism (across governance, funding and professional guidance and standards); ii) land availability and price; iii) 'institutional voids', and iv) 'black-boxing' (urban development negotiations and decision-making).

- **Short-termism:** (Black, Bates et al, 2024a) Factors driving short-termism vary across different stakeholders and areas of the system. In finance and law, quarterly reporting is the norm for public companies (i.e. *share*holder vs *stake*holder interest, legal fiduciary duties) so institutional investment (e.g. pension funds, insurance companies) seen to have a longer-term view than that

of small speculative developers, yet even for large entities, timeframes can be as little as 5-10 years due to demand fluctuations, obsolescence, and the recent phenomenon of digital trading in real estate (Black et al, 2021). There was a view that the finance and investment world is shifting with built environment sustainability as a priority, but still with little focus on health compared to climate. In housing and infrastructure development more broadly, the policy emphasis is on measurable quantity over quality / planetary health. Policy initiatives such as Permitted Development were suggested to be resulting in "appalling" quality housing. In professional development standards and guidance (e.g. valuation, loan agreements, ESG) fail to factor in long-term 'externalities'.

- **Land control:** The critical role of land acquisition and control was emphasised, alongside value 'extraction', with owner compensation weakening opportunities for strategic planning for health (e.g. lack of consideration of health alongside Housing and Economic Land Availability Assessments).[5] The issue of land pricing and 'hope value' was presented as a potentially significant obstacle to health, as were weaknesses or legal and resource risks associated with Compulsory Purchase Orders.
- **'Institutional voids'** are understood as empty spaces, where institutional elements are missing or poorly functioning. Using insights from the political theory literature, we reframe voids not as empty spaces, but rather as active social spaces where new or previously siloed institutions come together. This coming together creates opportunities for change in three key ways: developing new norms, devising legitimate political interventions, and negotiating new rules. By investigating the interplay between the institutions of urban development and health as understood within industry, we show not only the types of activity that characterise these voids and how they function, but also the opportunities for health that are presented in these renegotiations. Second round revise and resubmit.
- **'Black-boxing ' and health:** (Kwon HR, Pain K, 2023; Pain K, 2023) Despite a common perception that the interests of commercial real estate investment and urban planning actors are generally not aligned, awareness of societal health and wellbeing has become prevalent amongst major real estate actors as an important component of sustainable investment. Black box decision outcomes may also be subject to objectives reflecting political short-termism. Robust health data is needed to place it centrally in the urban decision-making 'black box' arenas (those hidden sites of informal decision-making).

More broadly, there was general agreement that there is no single coherent strategy or road map to achieving our public and planetary health goals, with a wide range of challenges to solve: a fragmented network of influential actors; socio-environmental principles not 'baked in'; the unresolved retrofit problem; 'myopia' among certain asset managers (e.g. "nice shiny Fitwell certificate, but no consideration of pollution"); national delivery and investment agencies seen as not fit for purpose; perverse procurement, taxes and subsidies; a volatile development system with too much risk and poor quality products; unreasonable expectations on neighborhood planning; incapacitated local government; a perception of obstructive, uninformed planning committees.

It was suggested that people in the private sector are sympathetic and supportive of the health agenda, but for some it's also seen as "too difficult". Addressing the health data deficit was identified as a potentially powerful means of facilitating the incorporation of health risks in financial appraisal forecasting.

[5] Gov.UK (2023) Guidance: Housing and economic land availability assessment. Available from: https://www.gov.uk/guidance/housing-and-economic-land-availability-assessment

LAW

The main findings on points of law focused on the interplay between legal, commercial and political determinants of health (Montel L, 2022; Montel L, 2023). The effects – or lack of effects – of the law are driven by the beliefs and experiences of those who are engaged by it, or who engage with it, in practice. Six main issues were identified:

i. Density and complexity of the law
ii. Weak and outdated regulatory standards
iii. Absence of health from legal requirements in the decision-making process
iv. Inconsistent interpretations by actors with competing interests
v. Lack of strong health evidence-based local planning policies
vi. Inertia of the law

Specific recommendations included:

- **Vision-setting:** Law could play a critical role, notably through implementing and securing visions of health and well-being, and evidence-based interventions.
- **Local government legal capacity**, with clear need for it to be strengthened at the local level
- **More focus on commercial and political determinants:** To understand legal determinants, and to push for changes through law to achieve better, fairer health opportunities and outcomes, we explain in particular how attention needs to be given to commercial and political influences on how laws (do not) manifest in decisions and activities that influence health.

SPATIAL PLANNING

Findings underlined the importance of understanding the interplay of ideas, interests, and institutional arrangements at the local level for addressing complex public health issues such as urban health (Koksal and Wong 2023). Tackling such challenges necessitates a comprehension of the priorities and structures influencing a multitude of actors, particularly when aiming for healthier place-making, with an emphasis on defining 'healthy' urban development (Le Gouais et al 2023). While the significance of the 'city' and 'place' as key sites for transformative solutions has been underscored by global agendas like the United Nations' Sustainable Development Goals, there remains a distinct gap in the systematic research focused on deciphering the intricate governance structures and cross-sectoral policy-making dynamics in spatial planning as a health solution (Wong et al 2023).

Combined authorities and further devolution can be helpful by providing a platform for cooperation and coordination among local authorities and different policy sub-systems. Collaborative working, particularly in an interdisciplinary manner, is becoming increasingly vital in policy and practice (Bates et al 2023, Hasan et al 2023). Extending the boundary spanning concept across different spatial levels can also help to rebalance the top-down direction and guidance from Whitehall, which tends to outweigh horizontal integration across policy sectors and agents at the local level to address boundary-spanning problems (Koksal and Wong 2023). Specifically, it can help to:

- Identify the root causes of conflicts
- Alignment diverse interests and agendas across policy networks
- Highlight the importance of both formal and informal institutions

PUBLIC INVOLVEMENT

Findings from the Phase 1 interviews confirmed some of the foundational understandings of the project concerning weak trust amongst both public and decision-makers and poor transparency in decision-making; and c) a lack of diversity continues in terms of the public involved in engagement and consultation processes. In addition, data highlighted how the timing of, and time devoted to both early engagement and formal consultation activities impacts on meaningful contributions of the public. This is related to poor buy-in to community engagement amongst some developers, which is partially associated with negative perceptions about the publics most likely to participate (NIMBY-ism). Interviews, further, confirmed a continuing lack of diversity continues in terms of the public involved in engagement and consultation processes and how the skewed representation of particular publics can be seen to exacerbate existing inequalities, as those most likely to be disadvantaged are less likely to have their voice heard. Interest in new methods of the sharing of lived experience, through story-telling aligned with other forms of evidence, for example, was identified amongst some decision-makers. Recommendations stemming from our analysis included the need for:

- Earlier, 'deliberative conversations' in urban regeneration/place-making/development projects with explicit, transparent outcomes;
- Public input to the (co-)design of engagement methods;
- Public engagement approaches and strategies which enable more meaningful sharing of lived experiences and can enhance mutual understanding between the public and decision-makers;
- Planning and monitoring measures to ensure a representative diversity of publics contribute in engagement activities;
- Closer examination of the outputs and outcomes ('depth') of public contributions, and better communication of this narrative 'thread' to enhance how public contributions are understood and valued amongst different stakeholder groups and build greater mutual trust (White and Le Gouais, paper in progress).

This Phase 1 analysis fed into further, detailed research concerning current approaches to public involvement and their strengths and weaknesses. An evaluation of public engagement activities in the TRUUD City Property case study context was also conducted, which analysed the perspectives of both the public and local authority staff involved and provided a live example of how engagement works in practice. The ways in which digital technology and platforms are currently used to interface with the public were also critically examined in collaboration with the Public Advisory Group (TRUUD Intervention Briefing July 23). Findings from these additional activities led to deeper understanding of how public engagement is operationalised within the system overall, and potential improvements, as well as potential entry points and platforms for sharing health data and the qualitative lived experience of those facing health inequalities. All of this work has fed into multiple Intervention Areas, including a dedicated Public Engagement Intervention.

SYSTEMS ANALYSIS

The Phase 1 Systems Mapping workshops engaged 47 participants, identifying 189 drivers affecting the consideration of health in urban development decision making. These can be broadly grouped into seven categories: (i) Cost & Value, (ii) Skills & Data, (iii) Housing Requirements, (iv) Collaboration & Public Engagement, (v) Governance & Regulation, (vi) attitudes towards change and (vii) attitudes

towards health. Some wider factors were also highlighted which sit beyond and across these categories, for example poverty, inequality and climate change.

The findings from these workshops were combined with an analysis of the interview data to map the interactions between these factors and their influence on the degree to health is considered in urban development decision making. From this, 288 variables were identified, consolidated to a list of 49. These included such factors as Cost of Land, Quality of Data & Evidence, Integration of Health in Policies and Quality of Community Engagement. The interview data provided evidence for 144 causal links between these factors, forming 3,986 potential feedback loops which manifest the findings above and suggest the multiple complex ways in which they interact.

Intervening in Multiple Areas

INTERVENING IN MULTIPLE AREAS

Identifying and agreeing the specific intervention (or 'leverage') points required a 6-month facilitated process (Bates, Black et al, 2023). A long-list of 56 intervention areas were identified through iterative review of WP1 interview analysis documents and workshop findings, clustered by scale, sector and 'problem holder'. Through a whole-team process of prioritisation, including with expert advisors (including local government partners) and our public advisory group, we identified seven main areas of intervention (Table 1 and Figure 4).

	Intervention Area	Problem Identified	Mechanism
1	National Govt **(Valuation)**	• Lack of health outcomes in funding • Lack of joined up working • Wider determinants not considered	• New valuation tool (HAUS) • Combined with governance improvements
2	Law **(Local capacity)**	• Lack of legal confidence in LPAs • Lack of consistency at PI	• Training modules/materials
3	Private Sector **(Changing mindsets)**	• Health dislocation legitimised • Health not a priority	• Evidence-informed influencer model (drawing on HAUS and citizen voice)
4	Private Sector **(Real estate investment)**	• Lack of health data	• New valuation tool (HAUS)
5	City-Region Transport **(Strategy)**	• Lack of small area health outcome data; • Transport policy criss-crosses different policy sectors and there are tensions to align different priorities; • Improve the shared evidence base for joint working	• Improved data and KPIs
6	City Property **(Major Projects / Spatial Planning)**	• Health not fully factored in to spatial plan and planning policy	• New valuation (HAUS) • Health Impact Assessment • Policy review
7	Public Engagement **(Deliberative Engagement)**	• Weak voice of those experiencing inequalities • Health data and sharing of lived experience lacking in public-decision-maker interface • Engagement activities more likely to meet the needs of decision-makers than the public	• Deliberative engagement process for health-promoting initiatives

Table 1: Intervention areas, the problems identified and the mechanisms proposed

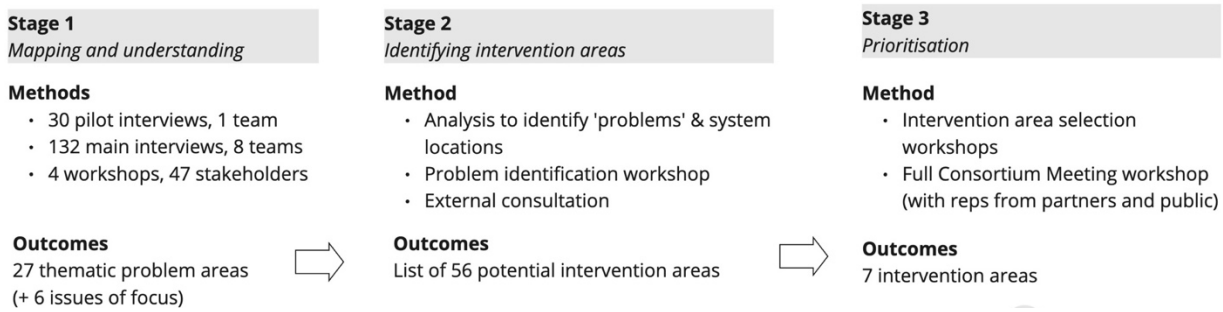


Figure 4: Three main stages of intervention identification with headline methods, outcomes and illustrated outputs

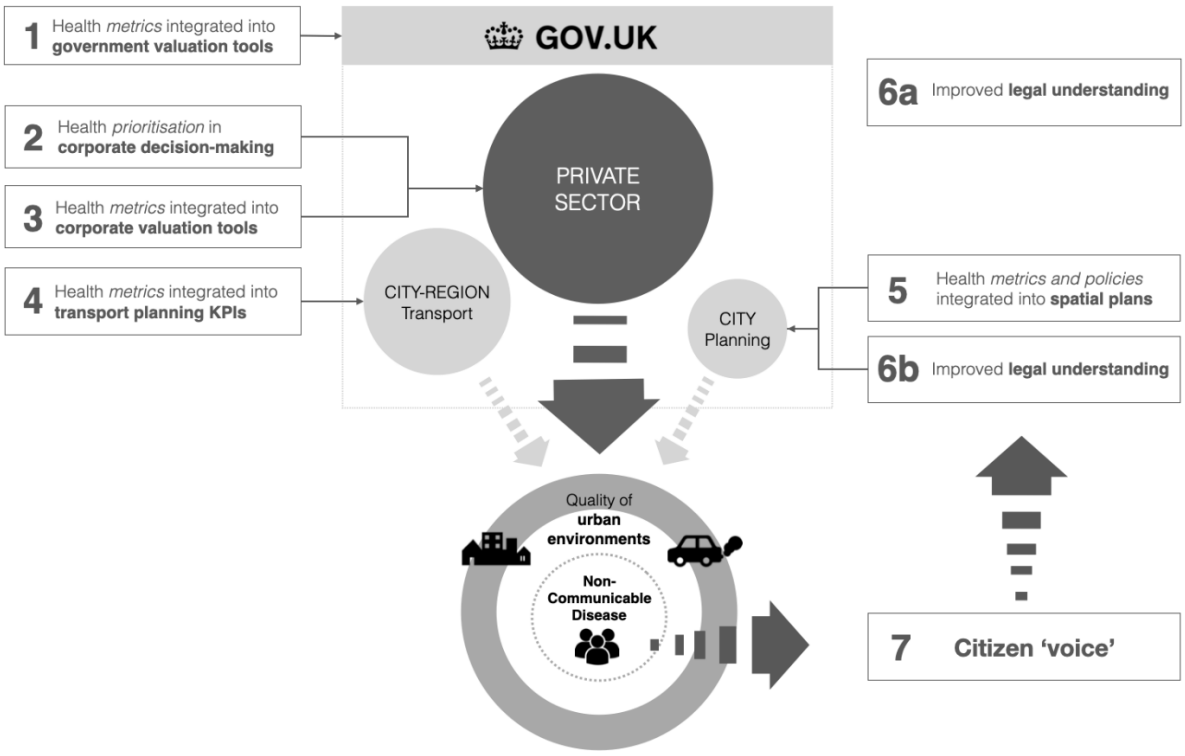


Figure 5: Intervention areas illustrated in their 'locations'

NATIONAL GOVERNMENT – URBAN POLICY

Aims: To use evidence and advocacy to ensure that NCDs and health inequalities feature in the Government's strategic planning on Levelling Up. To apply a systems perspective to support joined up working between health and urban development actors working on Levelling Up including the private sector and citizens. To target the Levelling Up data team (or specific Levelling Up funding) to influence policy guidance, objectives, metrics, and outcomes associated with the wider determinants of health.

Outcomes: The representation of health data (quantitative economic valuations and qualitative lived experiences) in national decision making on urban development. This will lead to enhanced cross-departmental working and the inclusion of health outcomes and inequalities in policy guidance, key performance indicators (KPIs) and evaluation criteria. Proposed outcomes would include:

- A continued commitment to health outcomes and inequalities in the Levelling Up agenda,
- The incorporation of the wider determinants of health in the Levelling Up political narrative,
- Enhanced joint working between state, non-state, and private sector decision makers in Whitehall,
- A more purposeful use of evidence to incorporate the wider determinants of health in Whitehall decision making on Levelling Up.

Stakeholders: Whitehall departments and teams: HM Treasury, Department of Health and Social Care (DCMS), Department for Levelling Up, Housing and Communities (DLUHC), Cabinet Office, Cities and Local Growth Unit (CLGU), Office for Health Improvement and Disparities, Levelling Up, Homes and Communities Commons Select Committee. Government data services: National Audit Office, National Statistics Service, Data Unit in DLUHC. Local Government: Greater Manchester Combined Authority (AH), Bristol City Council (ALG). Non-Governmental Organisations: Institute for Government, Institute for Public Policy Research, Royal Society of Arts, Centre for Progressive Policy.

PRIVATE SECTOR – CHANGING MINDSETS

Aims: We aim to position health more centrally in the minds of professionals by bringing together two key factors that influence mindset change – power and norms. Our intervention is being designed to trigger individuals at cognitive and emotional levels, using work from the HAUS model, the public engagement group and other sources to increase an understanding and valuing of those suffering from health and health inequality issues (proximity), and to create a shared sense of power within the industry to enact change (collective efficacy). Our intervention will be co-produced and delivered by an industry insider to increase the likelihood of industry members engaging.

Outcomes: Given that most psychological models agree that the last step before an individual acts is the development of an 'intention to act', our mindset change work should increase the intention of professionals to act on health within professional practice. This is underpinned by changes in proximity and collective efficacy. Where possible, we will also conduct ripple effects mapping to investigate whether changes in intention to act have been translated into behaviours (e.g. seeking out a network of likeminded people, conducting a pilot project).

Key stakeholders: Three sectors, with a focus on private sector 'industry' (e.g., developers, investors, commercial real estate managers, consultants, advisors), but with government and NGO stakeholders. Maximum two industry insiders will form a key part of the team in the production and delivery of the intervention.

PRIVATE SECTOR – REAL ESTATE INVESTMENT

Aims: The intervention will address the challenge of the paucity of data, which makes it difficult for valuations and financial investment risk appraisal to rely upon sufficient authenticity in how health and wellbeing risks (alongside ESG risks), might affect assets being valued/appraised.

Outcomes: Consensus built around opportunities for change by creating a convening space for stakeholders involved in property valuation / financial risk appraisal. We will produce reports on: stakeholder views on the problem space from a practice and organisational perspective; barriers to and levers for change; intervention options and future data development needs for long-term impact. More detail to be included in the Intervention Area template and the IA Delivery Plan.

Key stakeholders: Major commercial organisations from the real estate and financial services sectors, and industry representative organisations. Dependent on consultation priorities, professional bodies and lay public advocates could be added.

LAW – EDUCATION AND LOCAL GOVERNMENT CAPACITY

Aims: To co-design, co-produce, disseminate (and evaluate the impact of) accessible and authoritative training and evidence-based advocacy materials to improve the understanding and use of law to promote the value of health (with a focus on health promotion and prevention of NCDs) in local planning policies and decision-making in Local Planning Authorities (LPAs), as well as in the decision-making of private developers. The training materials will take a particular focus on the effective use of Health Impact Assessments specifically.

Outcomes: Raised awareness of the role of the law to promote health in urban development at local government level; Increased consistency of planning inspectors' reviews of decisions by LPAs in relation to health; Increased legal confidence and capacity of LPAs in relation to health; Emergence of a culture among key actors in urban planning decision-making, notably LPAs, the planning inspectorate, professional bodies and property developers, to include health as a core value in urban development.

Key stakeholders: OHID (Office for Health Improvement and Disparity); Officials in LPAs (exact roles to be determined); Planning inspectors; Public health officials; Solicitors and barristers working in both public authorities and private practice; Members of the judiciary; Members of professional organisations such as the Town and Country Planning Association, the Royal and Town Planning Institute; The Faculty of Public Health; Local communities; property developers.

CITY-REGION TRANSPORT STRATEGY

Aims: To investigate and support the embedded development of a comprehensive, bespoke set of health metrics to be used to support the Streets for All approach, build these metrics into the overall framework and co-develop a useful approach to using these in local areas to aid decision making. An integrated three-part intervention incorporating: metrics, a systems approach to continuous improvement, engagement and visualisation tools "What gets measured, gets done".

Outcomes: Use of the health measures in planning, implementing and evaluation GM's healthy streets' "Streets for All" approach; Evidence of these measures being used to support local decision making; Improvement in health against the baseline position and/or the ability to be able to identify otherwise and for evidence of this being addressed.

Key stakeholders: Transport for Greater Manchester; Local Authority Districts in GM (transport planners); the public and elected representatives in Greater Manchester.

CITY PROPERTY AND PLANNING POLICY

Aims: To improve the way health impact and health inequalities are considered in local policies and plans, and to strengthen public engagement in decisions about urban development. We are doing this by influencing a spatial regeneration framework, supporting enhanced community engagement, and integrating health into local development planning policies.

Outcomes: Healthier environments in the Frome Gateway area for new residents, and also for existing residents living nearby in very deprived areas; other local authorities and relevant national policy and practice stakeholders aware of the details of the case study and local plan improvements; health modelling tool further developed.

Key stakeholders: Bristol City Council officers, elected members, and the public.

PUBLIC ENGAGEMENT – DELIBERATIVE ENGAGEMENT

Aims: To improve implementation of health-promoting policy initiatives through the co-design and testing of optimal early-stage deliberative public engagement for neighbourhood-level interventions, using the example of Low Traffic/'Liveable' Neighbourhoods.

Outcomes: Methods of deliberative public engagement tested and trialled, including the use of health data visualizations and explainers, sharing of lived experience of inequalities and enhanced local authority-public communication methods.

Key stakeholders: Local authority representatives, the public, community organisations, 'Community Ambassador' facilitators, the public.

The current context of controversy and backlash towards such localised initiatives and broader health-promoting policy interventions such as ULEZ and other Clean Air Zone initiatives means this is a particular topical area of intervention with potential replicability in multiple contexts.

Valuing Urban Health ‘Externalities’

VALUING URBAN HEALTH 'EXTERNALITIES'

The primary activity in this workstream was to finalise the database started in the pilot, UPSTREAM project (Eaton et al, 2023). Supporting that database development were other areas of work:

- A major piece of work looking at air pollution and low emission zones, with the intention of quantifying the health consequences of policy changes;
- A survey to measure people's willingness to pay to avoid depression of varying severities;
- Two studies on two climate risk factors: extreme heat and flooding
- The development of granular urban health data in Greater Manchester…
- A residents survey in/near to our case study neighbourhood in Bristol. This provided localised data which was not available through routine data sets, to pilot and test the model in phase 2.

DEVELOPMENT OF THE DATABASE

The first phase of work on valuation focused on the development of the database, which is being developed further, tested and evaluated with end users in phase two.

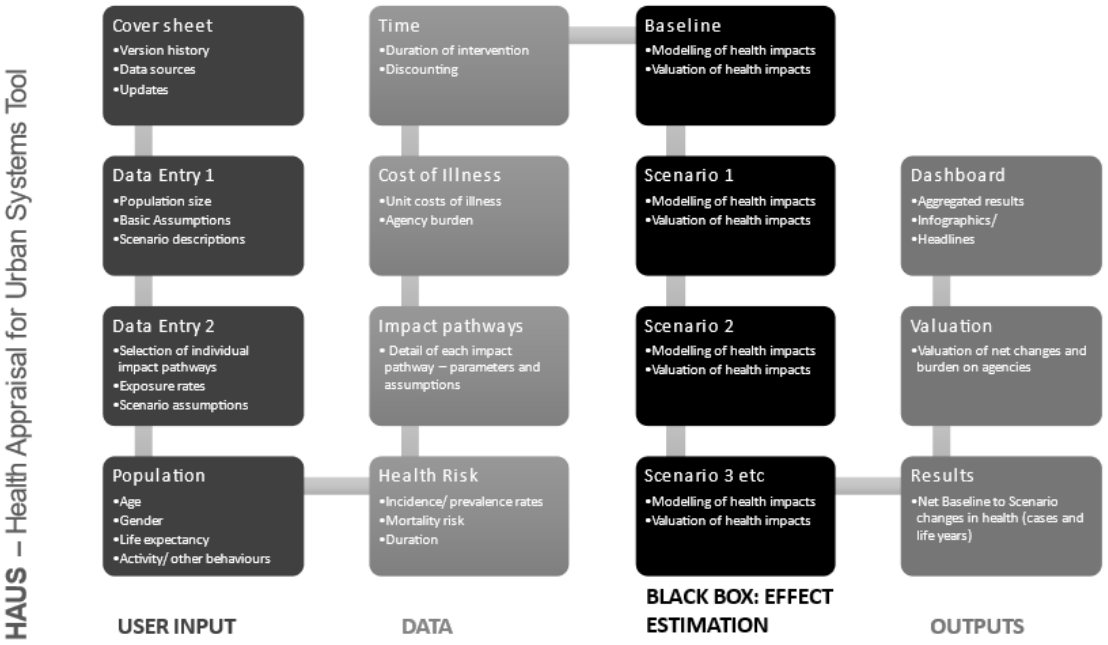
The team combined data from a series of systematic reviews of the quantitative evidence linking characteristics of the urban environment with health consequences and the economic valuation of these health impacts from a societal perspective within a spreadsheet-based tool.

The tool – named 'HAUS' (Health Appraisal for Urban Systems) – allows the user to estimate the health impacts of changes in urban environments. The economic valuation of these impacts in turn facilitates the use of such data in broader economic appraisal of urban development projects and policies.

We used the 'Impact-Pathway' approach, applying observations (of health impacts associated with 28 characteristics of the urban environment) to forecast changes in cases of specific health impacts that result from changes in urban contexts. Unit values for the societal cost of 78 health outcomes are estimated and incorporated in order to allow the quantification of the potential effect size of a given change in the urban environment.

AIR POLLUTION AND LOW EMISSION ZONES (LEZ)

Despite the high profile of air pollution, there is scant evidence on the effectiveness of clean air transport policies. Our study investigates the effects of London's Low Emission Zone (LEZ) and Ultra-Low Emission Zone (ULEZ) and showed that LEZs have reduced PM10 by 12% of the baseline mean, health problems by 7%, COPD by 14.5% and sick leave by 17%. ULEZ on the other hand has reduced both NO2 by 12.4% and PM10 by 27%, reducing number of health conditions by 22.5%, anxiety by 6.5%, and sick leave by 18%. A rough cost-benefit analysis indicates savings for £963.7M for the overall population (Beshir and Fichera, 2021; Fichera, Beshir and Castano, 2023).



DEPRESSION

Given the limited evidence on valuation of mental health, our study aims to estimate values for an individual's willingness to pay (WTP) to avoid the disutility of having the symptoms of depression. Following a similar study in the US (Smith et al. 2012), we use a physical health condition - lower back pain - to act as a comparator for the mental health condition in the survey since it has a number of comparable characteristics including variable length and severity. We therefore derive welfare values for both health outcomes.

Method: A representative sample of 1,553 UK adults was surveyed online in Autumn 2022 in a contingent valuation survey instrument using a two-way payment ladder elicitation method. This was supplemented with questions relating to the respondents' quality of life and how it might change with a diagnosis of each health condition.

Respondents are presented with a hypothetical diagnosis conforming to mild, moderate and severe forms of depression and lower back pain. We explore how the individual's baseline mental health, experience of illness, and background affects responses, including income, education, ethnicity and religion. Sensitivity to scope is explored via testing of varying severities and payment options.

Results: Willingness to pay values are derived for both conditions with different levels of severity. Values were strongly skewed towards zero, but with a long tail towards higher values, so we report median values here: Median WTP to avoid the symptoms of depression was £1,560 per year (range from mild £1,425-severe £1,763), whereas median WTP to avoid back pain was £1,276 per year (range from mild £1,209-severe £1,507).

Respondents rated the potential effect of depression on their quality of life as much larger than lower back pain. However, for a single unit change in quality of life, participants were willing to pay around 10% less to avoid depression than to avoid lower back pain.

The values we derive help to complete a gap in economic valuation evidence for two of the most prevalent conditions in the UK which have been associated with poor living conditions and urban environments more generally. Findings will help to inform more robust estimates of the economic welfare burden of these conditions and so inform the economic appraisal of policy and project interventions in both urban design and clinical contexts.

EXTREME HEAT

Extreme heat is one of the largest weather-related causes of mortality and is projected to cause severe heatwaves and droughts. Current research has focused on the effects of outdoor heat exposure on Non-Communicable Diseases (NCD), leaving a gap in knowledge regarding indoor exposure to extreme heat (Ige et al., 2023; Tham et al., 2020).

The review analysed the effects of extreme heat, both indoors and outdoors, on non-communicable diseases in the United Kingdom, applying a systematic review methodology to identify and summarize empirical studies reporting on the associations between heatwaves and extreme heat and the risk of NCDs (Ige et al., 2023).

The literature search was conducted across six electronic databases from 1990 to 2021. Out of 244 studies, 24 studies were quality assessed for inclusion in the review, while only 16 met the quality benchmark. Fourteen of these examined the links between heat exposure and mortality, while the remaining studies focused on emergency hospital admissions and years of life lost (Ige et al., 2023).

The review highlights a consistent association between exposure to extreme heat and increased risk of mortality (Ige et al., 2023).

FLOOD RISK

Understanding the impacts of flooding is of utmost importance in today's world, as climate change continues to increase the frequency and severity of extreme weather events. Flooding can have far-reaching consequences that extend beyond physical damage to infrastructure and property
On flooding, our literature search followed a similar pattern with the extreme heating review and involved a search across six electronic databases from 1990 to 2021. The abstract of 63 studies were initially retrieved from the 400 studies identified during the search. Only 14 of these were deemed eligible for inclusion (Ige and Powell, 2021)

While the findings of the review are limited in the number of good quality studies identified. The data retrieved suggests that flooding has a profound impact on the mental health and well-being of individuals. Flood-affected individuals could experience higher levels of post-traumatic stress disorder (PTSD), anxiety, and depression compared to those unaffected by flooding. These mental health issues can persist for up to three years after flooding, with repeat flooding events exacerbating the prevalence of symptoms. Other health impacts reported to be associated with experiencing flooding include lower health-related quality of life, including difficulties in daily activities and psychological distress. While our findings do not point to a significant increase in overall mortality rate, the available evidence suggests that is an increased risk of common mental health disorders and suicidal thoughts among flood-affected populations. The need for mental health support and interventions could be crucial in addressing the psychosocial consequences of flooding and promoting community resilience (Ige and Powell, 2021).

Proliferation of evidence on flooding driven by frequency of global flooding events required revisiting the earlier review. September – November 2023 two additional databases were added and the

search strategy reapplied with Mendeley library updated. Data was extracted from 15 studies and a draft output written for publication (Ige Powell Zandian, 2024).

STORMS

A systematic review was initiated (PROSPERO registration number: CRD42021292151), but the number and quality of studies identified November 2022 - February 2023 through this process was minimal. The search rerun in July 2023 revealed two new important studies not identified previously on the impact of storms and wildfires combined. The new evidence indicates the role of new types of particulate matter (PM) and significant effects on same day natural and cardiorespiratory mortalities in the UK. In August 2023, the decision was made to expand the range and types of databases searched.

Research Operationalisation: Complex Social Systems

RESEARCH OPERATIONALISATION:

COMPLEX SOCIAL SYSTEMS

REFLECTIONS ON PROGRAMME ESTABLISHMENT

TRUUD was a newly forming, large-scale, transdisciplinary research group that aimed to intervene in complex societal challenges areas upstream at multiple root cause decision-points.

The group has written a number of papers reflecting on the various challenges in terms of language and epistemology, methodology, management and communications. Much is about gaining hard-won experience and managing expectations.

Headline lessons cover the following main areas and include:

Overall coordination (Black, Bates, et al, 2023; Black, Bates, et al, 2024b):

1. Addressing global challenges requires new ways of operationalising research
2. There is a growing literature, but this knowledge appears marginal and largely unknown to those outside that area of specialism or an experienced few
3. Context is critical, so critical reflection of case study experience important
4. Co-production is essential, yet not easy when intervening in complex systems

Coordinating large-scale interviews (Bates et al, 2023c):

1. Differing expectations, epistemologies, and preferences pose challenges for ensuring rigorous qualitative research, goodwill and team cohesion
2. Drawing on critical reflections / experiences, eight recommendations for balance proposed
3. Balancing autonomy and collaboration is key (e.g. prioritising time to develop shared understandings, build trust, psychological safety, etc.)

Conducting research on research: (Briers S, Rosenberg G, 2023):

1. Research landscape challenges arising from differing traditions, epistemologies, expectations.
2. Explores how design driven research-on-research can benefit complex research collaborations
3. Employed participatory design methods, including personas, empathy mapping, and scenario building, to develop capacity

Systems analysis of large qualitative data sets (Newberry and Carhart, 2023):

1. Semi-automated approaches offer some time saving, but care is required in interpreting and including peripheral contextual variables

Utilising a 'researcher-in-residence' approach (Le Gouais A and Peake-Jones S, 2022; Peake-Jones and Le Gouais, 2023):

1. There are challenges in using health-related knowledge to enhance the uptake of evidence in dynamic and complex settings

2. Embedded research offers opportunities for facilitating better connections between research and practice

IMPACT ACROSS THE UKPRP COMMUNITY OF PRACTICE

The 'Impact-Oriented Research' Group was one of the themed areas identified through early discussions with the newly forming Community of Practice (CoP). The aim was to co-develop a shared understanding of approaches to impact-oriented prevention research across the UKPRP and critically reflect on different approaches to impact-orientation. The intention also was to work closely with other themes and enable the UKPRP groups to share thinking on best practice on maximising societal impact from prevention research.

The work split in to two main areas:

i) Enabling a shared understanding of the underlying foundations of the UKPRP and of TRUUD, both their moral and philosophical groundings, as well as their practical missions and the implications of these on research operationalisation.
ii) A qualitative investigation of the differing approaches to impact planning and monitoring, through interviewing representatives across the CoP.

A paper and separate report are due to be submitted in January 2024 and was presented in full at the UKPRP Conference in November 2023 (Coggon, Black, Martin et al; 2023).

IMPROVING COLLABORATIVE RESEARCH PRACTICES ACROSS THE UKPRP COMMUNITY OF PRACTICE

The development theme 'Improving Collaborative Research Practices' started in May 2023 has explored what makes 'good' inter/transdisciplinary research (ITDR) with participation from across the UKPRPR Consortia and Networks. The theme is working towards three core objectives:

1. Improvements to Team Science: Capturing the common challenges faced and solutions developed to operationalise and collaborate on ITDR projects more effectively.
2. Reflecting on Research: Explore the processes that researchers can adopt to continually improve research practices and outcomes.
3. Framing of Future ITDR Research: Inform how funding bodies fund future ITDR and where researchers could make improvements to research proposals and delivery plans.

The headline topics emerging from this theme include:

- Building and sustaining research capacity over the project life-cycle;
- Learning for continual improvement of research structures, processes and practices in ITDR;
- Transforming collaborative research practices for early career researchers and support staff;
- Coproduction challenges including knowledge mobilisation and integration;
- Team-based leadership of research and the importance of social processes in Team Science;
- Operationalising agility in the research mission, aims and processes.

The Theme is supporting knowledge exchange through workshops run online and is building on insights gained from surveys, meetings, and focus groups held with CoP members. A final capstone workshop took place for the UKPRP Conference in November 2023, and shortly after this, a final 'Team Science Playbook' with embedded case studies.

TRUUD PUBLICATIONS

- Adams J., Coggon J., (2021) Let them choose not to eat cake…': Public health ethics, effectiveness, and equity in government
obesity strategy. *Future Healthcare Journal.* Available
from: https://www.rcpjournals.org/content/futurehosp/early/2021/03/04/fhj.2020-0246
- Ayres S, Barnfield A, Bates G, Le Gouais A and Pearce N (2023) What needs to happen to 'level up' public health? *Contemporary Social Science.*
- Barnfield, A (2023), How value is enacted by public actors within urban development funding and the implications for levelling up in England. *Environment and Planning*
- Bates, G., Barnfield, A., Ayres, A., and Larkin, C. (2023b), What types of health evidence persuade policy actors in a complex system? *Policy and Politics.*
- Bates, G., Hasan N.M., Barnfield, A., & Bondy, K. (2023a). Urban policies and the creation of healthy urban environments: A review of government housing and transport policy documents in the United Kingdom ; Journal of Urban Affairs, Full article: Urban policies and the creation of healthy urban environments: A review of government housing and transport policy documents in the United Kingdom (tandfonline.com)
- Bates, G., Le Gouais A., Barnfield, A., Callway, R., Md Nazmul, H., Kwon, H. R., Peake-Jones, S., White, J., Bondy, K., Ayres, S. (2023c) Balancing Autonomy and Collaboration in Large-Scale and Disciplinary Diverse Teams for Successful Qualitative Research. *International Journal of Qualitative Methods.* Available from: https://journals.sagepub.com/doi/10.1177/16094069221144594
- Beshir H. and Fichera E. (2022) "And breathe normally": the Low Emission Zone impacts on health and well-being in England. Working paper HEDG University of York. Available: https://www.york.ac.uk/media/economics/documents/hedg/workingpapers/2022/2209.pdf
- Beshir, H., & Fichera, E. (2022). *"And Breathe Normally": The Low Emission Zone impacts on health and well-being in England*. (09 ed.) Health Econometrics Data Group, University of York. https://www.york.ac.uk/media/economics/documents/hedg/workingpapers/2022/2209.pdf
- Black D, Ayres S, Bondy K, Brierley R, Campbell R, Carhart N, Coggon J, Eaton E, Fichera E, Gibson A, Hatleskog E, Hickman M, Hicks B, Hunt A, Pain K, Pearce N, Pilkington P, Rosenberg G, Scally G (2022) Tackling Root Causes Upstream of Unhealthy Urban Development (TRUUD): Protocol of a five-year prevention research consortium *Wellcome Open Research*
- Black D., Pilkington P., Williams B., Ige J., Prestwood E., Hunt A., Eaton E., Scally G., (2021) Overcoming Systemic Barriers Preventing Healthy Urban Development in the UK: Main Findings from Interviewing Senior Decision-Makers During a 3-year Planetary Health Pilot. *Journal of Urban Health.* Available from: https://link.springer.com/article/10.1007/s11524-021-00537-y
- Black, D., Bates, G., et al. (June 2023) Operationalising a large research programme tackling complex urban and planetary health problems: a case study approach to critical reflection. *Sustainability Science.*
- Black, D., Bates, G., Gibson, A., Hatleskog, E., Fichera, E., Hatchard, J., Nazmul, Hasan Md., Rosenberg, G., Larkin, C., Brierley, R., Kidger, J., Bondy, K., Hickman, M., Pain, K., Hicks, B., Scally, G., Verma, A., Carhart, N., Pilkington, P., Hunt, A., and Ireland, P. (2020) Pandemics, vulnerability, and prevention: time to fundamentally reassess how we value and communicate risk? Cities & Health. Available from: https://www.tandfonline.com/doi/full/10.1080/23748834.2020.1811480
- Black D, Bates G, Callway R, Pain K, Kirton-Darling E (2024a) *Short-termism in urban development: the commercial determinants of planetary health*. Earth Systems Governance. [Submitted]

- Black D, Bates G, Gibson A, Pain K, Rosenberg G, White J (2024b) *What is "good" co-production in the context of planetary health research?* Earth Systems Governance. [Submitted]
- Briers, S and Rosenberg, G. (2023) Who Researchers the Researchers? Scaffolding Research on Research for Large-scale Transdisciplinary Projects. [Unpublished Manuscript]. Department of Mechanical Engineering, University of Bristol, UK.
- Burnett A and Pain K (2023) Linking Environmental and Human Health in English Urban Development Decision-Making: The Human Health Literacy of Environmental Policy. *Built Environment.*
- Caglar Koksal and Cecilia Wong (June 2023) Urban Planning and Public Health Beyond Public Health, Beyond Spatial Planning Boundary-Spanning Policy Regime of Urban Health in England. *Built Environment.*
- Callway, R., Le Gouais, A., Bird, E., Chang, M. and Kidger, J. (2023) Integrating Health into Local Plans: A Comparative Review of Health Requirements for Urban Development in Seven Local Planning Authorities in England. *Environmental Research and Public Health.* Available from: https://www.mdpi.com/1660-4601/20/5/4079.
- Carmichael, L., Prestwood, E., Marsh, R., Ige, J., Williams, B., Pilkington, P., Eaton, E. and Michalec, A. (2020) Healthy buildings for a healthy city: Is the public health evidence base informing current building policies?. *Science of the Total Environment*, 719, p.137146. Available from: https://doi.org/10.1016/j.scitotenv.2020.137146
- Cecilia Wong, Kathy Pain, Heeseo Rain Kwon and Caglar Koksal (June 2023) Urban Planning and Public Health. *Built Environment* special edition editorial.
- Coggon J, Black D, England K, King E, Martin J (2023) Realising and recording impacts for the public's health: Embracing opportunities and responding to challenges within UKPRP. UKPRP Community of Practice, Edinburgh 14 November.
- Coggon, J. (2020a) Legal, Moral and Political Determinants within the Social Determinants of Health: Approaching Transdisciplinary Challenges through Intradisciplinary Reflection. Public health Ethics. Available from: https://academic.oup.com/phe/article/13/1/41/5828364
- Coggon, J., Gostin, LO. (2020b) Global Health with Justice: Controlling the Floodgates of the Upstream Determinants of Health through Evidence-Based Law. Public Health Ethics. Available from: https://academic.oup.com/phe/article/13/1/4/5834663
- Eaton, E., Hunt, A. and Black, D. (2023) Developing and testing an environmental economics approach to the valuation and application of urban health externalities. *Front. Public Health*. Available from: https://www.frontiersin.org/articles/10.3389/fpubh.2023.1070200/full
- Fichera E., Beshir H. and Serna Castano A. (2023) Low Emission Zones improve air quality, physical health and well-being. Evaluating the impact of Low Emission Zones (LEZ) and Ultra Low Emission Zones (ULEZ) schemes in England. IPR Policy Brief November 2023. Available at: https://www.bath.ac.uk/publications/low-emission-zones-improve-air-quality-physical-health-and-mental-well-being/
- Ige J O, Powell J and Pilkington P. A systematic review of the impacts of extreme heat on health and wellbeing in the United Kingdom. *Cities and Health (In Press)*
- Ige-Elegbede, J., Pilkington, P., Orme, J., Williams, B., Prestwood, E., Black, D. and Carmichael, L., (2020) Designing healthier neighbourhoods: a systematic review of the impact of the neighbourhood design on health and wellbeing. *Cities & Health*, pp.1-16. Available from: https://www.tandfonline.com/doi/full/10.1080/23748834.2020.1799173
- Ijeoma Jane Emeghe and Kathy Pain (June 2023) Mental Wellbeing, Housing Provision and Social Valuation in a United Kingdom Context: a Planning Issue? *Built Environment*

- Janet Ige, Jane Powell. Historic and potential impacts of flooding on the risk of non-communicable diseases and risk factors in the UK: a systematic review. *PROSPERO 2021 CRD42021286842 Available from:* https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42021286842

- Kwon HR and Pain K (2023) Searching for Health and Wellbeing Commercial Real Estate Actor Encounters with Planning in the Urban Decision-Making 'Black Box' . *Built Environment.*
- Le Gouais A, Bates G, Callway R, Rain Kwon H, Montel L, Peake-Jones S, White J, Md Nazmul Hasan, Koksal C, Barnfield A, Bondy K, Ayres S (2023), Understanding how to create healthier places: A qualitative study exploring the complex system of urban development decision-making. *Health and Place.*
- Le Gouais A., Peake-Jones S., (2022) Researchers-in-Residence to facilitate co-production: the TRUUD project. *Perspectives in Public Health.* Available from: https://journals.sagepub.com/doi/full/10.1177/17579139221103183
- Md Nazmul Hasan, Caglar Koksal, Lisa Montel, Anna Le Gouais, Andrew Barnfield, Geoff Bates and Heeseo Rain Kwon (June 2023), Developing shared understanding through online interdisciplinary collaboration: Reflections from a research project on better integration of health outcomes in future urban development practice. *Futures in Science Direct.*
- Montel, L. (2022) The social determinants of health, law, and urban development: using human rights to address structural health inequalities in our cities. *Medical Law Review.* Available from: https://academic.oup.com/medlaw/advance-article/doi/10.1093/medlaw/fwac047/6833186
- Montel, L. (2023) 'Harnessing the power of the law': a qualitative analysis of the legal determinants of health in English urban planning and recommendations for fairer and healthier decision-making. *BMC Public Health.* Available from: https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-023-15166-0
- Newberry, P. and Carhart, N. (2023), Constructing causal loop diagrams from large interview data sets. Syst. Dyn. Rev.. https://doi.org/10.1002/sdr.1745
- Pain K (2023) In pursuit of financing a sustainable urban future for all. Blog. TRUUD. Available from: https://truud.ac.uk/financing-a-sustainable-urban-future/
- Peake-Jones S, and Le Gouais A (2023) Meaningful Engagement an Approach to Healthier Urban Development and Planning. *Built Environment*
- Scally G., Black D., Pilkington P., Williams B., Ige J., Prestwood E., (2021) The Application of 'Elite Interviewing' Methodology in Transdisciplinary Research: a Record of Process and Lessons Learned during a 3-year Pilot in Urban Planetary Health Research. *Journal of Urban Health.* Available from: https://link.springer.com/content/pdf/10.1007/s11524-021-00542-1.pdf

TRUUD

Tackling Root causes upstream of Unhealthy Urban Development (TRUUD) is a research project, based at the University of Bristol, looking at how urban centres can be planned to reduce health inequalities. It brings together experts from academia, industry and government to recommend and create new tools and processes for healthier cities. The project counts the cost of poor health, works with communities to communicate the issues they face and maps out the decision-making process in creating urban centres and includes two active case-studies in Bristol and Manchester.

TRUUD is supported by the UK Prevention Research Partnership (UKPRP), an initiative funded by UK Research and Innovation Councils, the Department of Health and Social Care (England) and the UK devolved administrations, and leading health research charities.

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UKPRP Prevention Research Partnership
Joint action for a healthier, fairer future

Local authority partners

GMCA Greater Manchester Combined Authority

Bristol City Council

University consortium

University of Bath

University of Bristol

The University of Manchester

University of Reading

University of Stirling

UWE Bristol