TRUUD

Tackling **R**oot causes **U**pstream of **U**nhealthy **U**rban **D**evelopment

www.truud.ac.uk

Festival of the Future City

How Do We Build Healthier Cities?

UKPRP Prevention Research Partnership

Bristol ideas

University Consortium

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Research Funders

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Problem identification for intervention development in complex systems research

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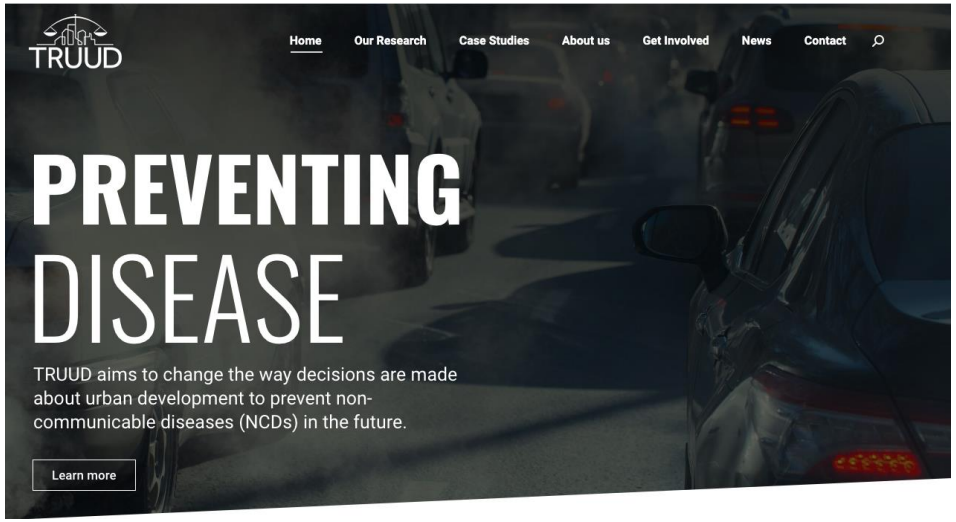

Tackling Root causes upstream of Unhealthy Urban Development project:

- Based on evidence that towns and cities are a significant determinant of non-communicable diseases
- TRUUD aims to prevent non-communicable diseases in the future by intervening 'upstream' now in key urban development decision-making processes
- Large, transdisciplinary team

  40 researchers, 6 universities, external partners in national, local and regional government, industry, third sector, local communities

Problem identification in TRUUD

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Phase 1 'Understanding and mapping the system'

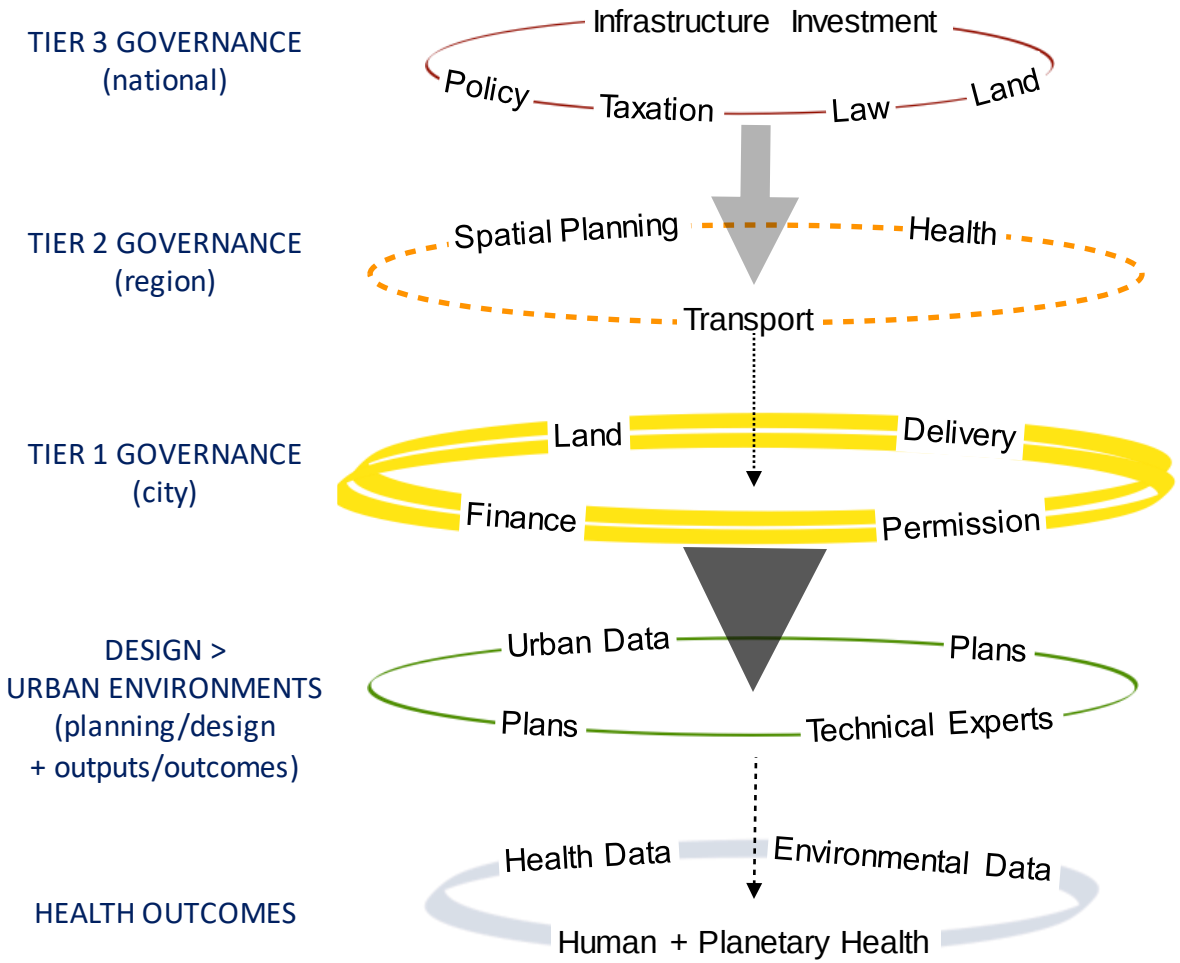
Understanding, **identifying** and **specifying** the problems preventing the development of 'healthy' urban environments

- What are the problems in the system?
- Which of these problems should we prioritise?
- Who needs to be involved? (which stakeholders should we engage with?)

Phase 2 'Intervention development'

Based on problem identification, developing multiple interventions across the urban development systems

Representation of the UK urban development system



‘Problem identification’ in intervention development

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1. What is 'problem identification'?

‘Understanding the problem’ typically:

- Occurs early on in intervention development,
- Focuses on agreeing and defining a specific behaviour/ outcome that needs to change.
- Understanding context and the causes of the problem.

Skivington et al., 2021 MRC guidance
Wight et al., 2016 6SQuiD six steps approach
Hawkins et al., 2017 co-producing public health interventions
Michie et al., 2014 behaviour change wheel approach
O'Cathain et al. 2019 complex interventions

2. Why is it so important?

Provides a theoretical foundation for intervention development

Rigour, confidence, effectiveness, transparency

- Increases likelihood of developing effective interventions.
- Reduces risk of developing ineffective interventions.

- Supports a deep understanding of the issue.
- Avoids presumptions about causes and solutions.
- Supports identification of stakeholders and partners for intervention co-development.

Understanding the problem

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What is involved?

- Literature review/ scoping research
- Engaging with relevant stakeholders
- Research team discussions
- Development of logic models, theories of change

What are the ideal outcomes?

Shared understandings in the team on:

What the problem is ✓
What causes the problem ✓
Research methods/ approach ✓
Which stakeholders to work with ✓

Stakeholder engagement

Stakeholders bring different experiences that can help us develop a deeper understanding of a problem by:

- challenging our assumptions
- offering different perspectives of problems and solutions
- helping us to understand context

Best practice is for early engagement with a range of stakeholders and to co-produce interventions.

So, what is the challenge?

Systems approaches are increasing called for in prevention research and by funders in response to highly complex problems e.g. climate change, health inequalities, non-communicable diseases

- Prevention through changing complex systems - tackling the wider determinants of health
- Big and messy problem spaces - working across sectors, disciplines, topic areas.
- Requires large, transdisciplinary teams
- Involves many more stakeholders

Problem identification in a complex system

Key challenges:

As the scale of the problem space increases, so does:

- The range of problems the team *could* address,
- The potential directions that research could go in,
- Uncertainty about the problem and solutions
- The range of stakeholder groups who can help you understand the problems

Key questions:

How can large and transdisciplinary teams come to shared understandings about the problems in a complex system?

How can you engage effectively with stakeholders across a complex system to help you understand what the problems are?

Does this matter??

Large and diverse research teams

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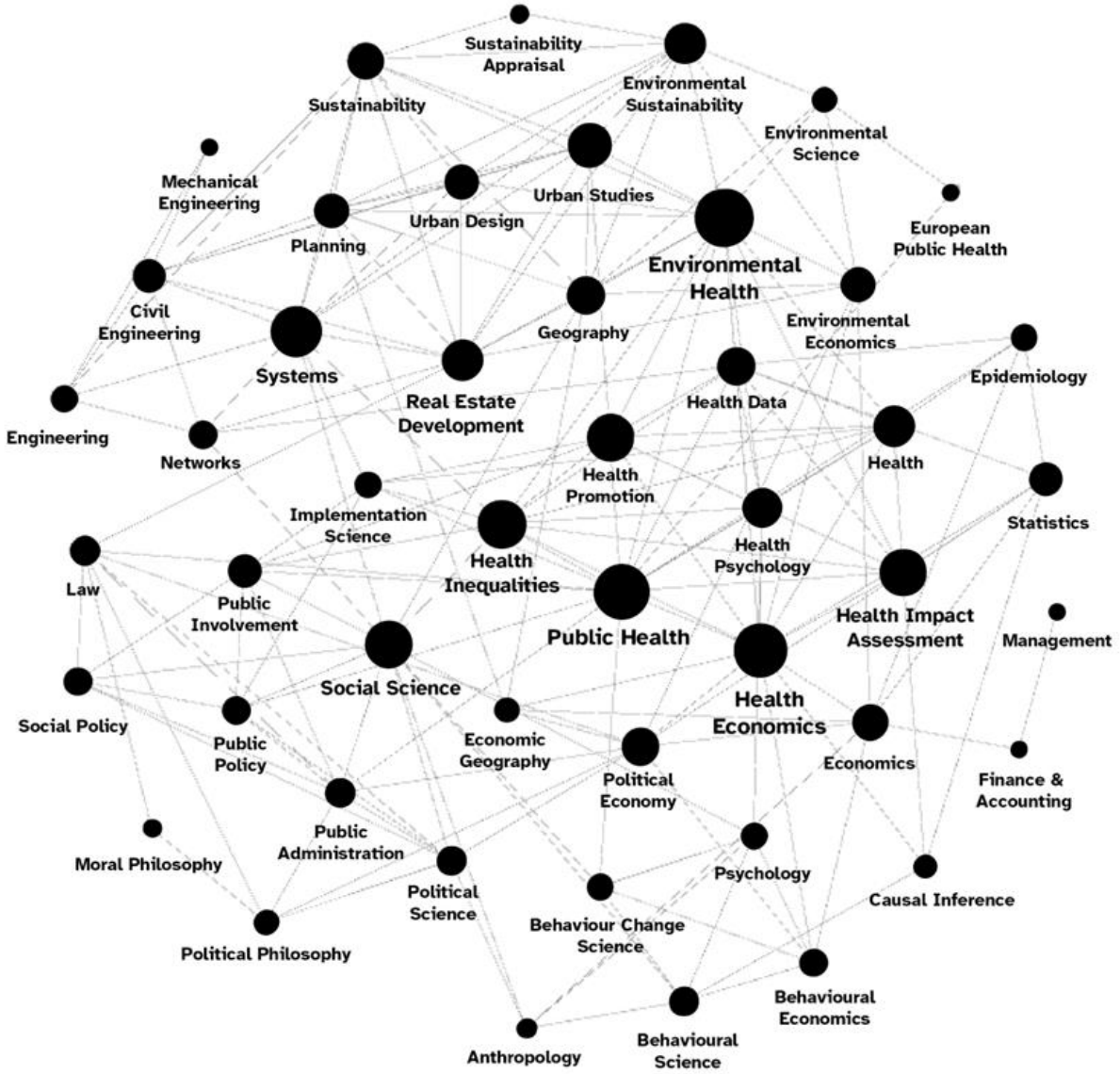
Areas of expertise across the TRUUD team



Research into complex problems and complex systems requires large, inter/transdisciplinary teams

•Breadth of perspectives and expertise allows new understandings of problems and solutions to emerge…

•…but also creates difficulties for developing shared understandings about problems.

• Very different opinions across the team on what the problems are and what we should prioritise.

From: Black D, Bates G, Ayres S, Bondy K, Callway R, Carhart N, Coggon J, Gibson A, Hunt A, Rosenberg G (2023) **Operationalising a large research programme tackling complex urban and planetary health problems: a case study approach to critical reflection.** Sustainability Science.

Which stakeholders to engage with?

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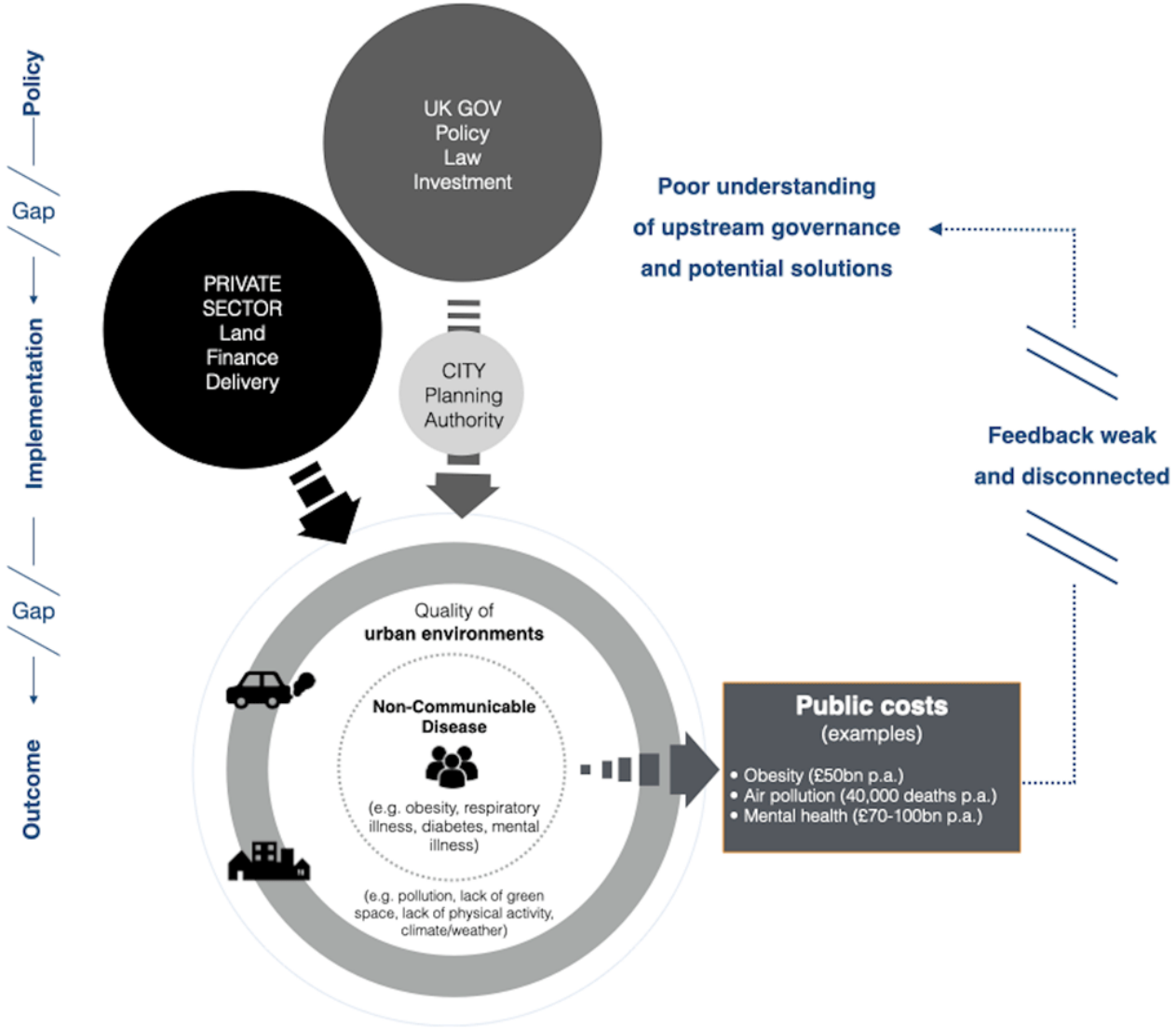

- Diverse stakeholders across the system
- All have their own perceptions of the problems preventing healthy urban development
- Early engagement with some parts of the system e.g., researchers in residence in local and regional government.
- Other stakeholders took more time to identify or develop relationships with.
- Limits to resources/ time/ access.

Black D et al (2022) **Study Protocol | Tackling Root Causes Upstream of Unhealthy Urban Development (TRUUD): Protocol of a five-year prevention research consortium.** Wellcome Open Access. https://wellcomeopenresearch.org/articles/6-30

Questions

1. How can large inter/ transdisciplinary research teams to come to shared understandings of problems for intervention development?

2. How can we draw effectively on the expertise of key stakeholders across a complex system in problem identification?

3. Is it inevitable that ideas of best practice in prevention science for 'problem identification' is compromised in intervention development in complex systems research?

Our recommendations for managing problem identification in large research teams

1. Factor in (far) more time than you would expect
2. Seek out funders who understand
3. Build confidence in working with uncertainties and unknowns
4. Invest substantially in coordination and communications
5. Ensure a 'psychologically safe' environment
6. Engage in rigorous and (constructive) critical reflection

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Weblink: https://mrc.ukri.org/research/initiatives/prevention-research/ukprp/