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Pathways to research excellence: developing a Health Determinants Research Collaboration (HDRC) for sustainable and applied research in Doncaster

Background and rationale

Doncaster Council is well placed to host and deliver a HDRC. Our Borough Strategy **Doncaster Delivering Together (DDT)** is about **Thriving People, Places & Planet**. It emphasises the need to improve wellbeing, and to do this we need intelligence led interventions. We know being research active as a Place and organisation is better for the people we serve, the people we employ and contributes to our knowledge economies. We are a forward thinking, innovative authority and this HDRC is supported by the Executive Leadership Team. This commitment is reflected in our bid, as is our recognition of where action to address the wider determinants lies. Doncaster Council's Chief Executive, Director of Economy and Environment and Director of Public Health are co-applicants. Our Assistant Directors of Human Resources and Policy, Insight and Change are also co-applicants, ensuring that colleagues responsible for workforce development and data science can contribute to this project. This means that research capacity development will be utilised as a vehicle for organisational transformation, enabling us to deliver better outcome for our citizens. In other words, we will hard wire research activity into our ways of working.

When Public Health transferred back to local government, we brought with us several research active members of staff (three of whom are co-applicants). We continued to work within the NIHR infrastructure aiming to connect research and practice. We were instrumental in the establishment of the Yorkshire and Humber CRN funded Local Authority Research LinK (LARk), which we continue to host. We have worked to develop trusted relationships and mature partnerships across Doncaster as a Place and with our Higher Education Institute (HEI) partners. This is exemplified by Doncaster Council successfully leading a consortium application to the Department of Housing, Levelling Up and Communities data accelerator programme. Our learning from the Local Authority Research Systems (LARS) funding identified that we had pockets of high quality research (including grant capture), but that we needed investment to build our capability and capacity to undertake sustained applied research and development. We have promising roots and a strong collaboration with Sheffield Hallam University (SHU) and The University of Sheffield (TUoS). Establishing a HDRC in Doncaster will nurture these roots and allow us to deliver for the people of Doncaster.

There is also a need within our borough, due to its industrial past and high levels of deprivation (United Kingdom Health Security Agency, 2019). Doncaster is the largest metropolitan borough by area in England with a dispersed population[1]. This presents a significant challenge in connecting people, places and businesses to economic and social opportunities. The Director of Public Health's latest Annual Report assesses overall health status within Doncaster by examining: life expectancy, healthy life expectancy (the length of time people live in a self-assessed state of good or very good health) and health inequalities (Doncaster Council, 2021c). Life expectancy across England over the last 10 years has been flat, whilst in Doncaster, life

[1] See here for more detail: updated Joint Strategic Needs Assessment https://www.teamdoncaster.org.uk/JSNA

expectancy continues to mirror the national picture albeit at a lower level. In the last year, the impact of the pandemic has reduced life expectancy by 0.5 years in men and 0.7 years in women. The contributors that have made the biggest impact on Life Expectancy in Doncaster reported in most recent data are deaths from COVID-19, deaths in childhood, deaths from overdose, violence and suicide, and premature deaths from heart disease, respiratory diseases and cancer.

Turning to healthy life expectancy, although in 2019 the Public Health Outcomes Framework showed that, for the first time since 2009, healthy life expectancy at birth for men in Doncaster was no longer significantly worse than the national rate, this trend has not continued. For 2017-19 Healthy life expectancy for men was 59.1 years compared to the England rate of 63.2 years, a difference of 4.1 years. These latest data show a healthy life expectancy for women of 57.5 years compared to the England rate of 63.5 years, a difference of 6 years. Investment in a HDRC in Doncaster can focus on what is really important to us i.e. **adding life to years.**

In terms of describing local health inequalities, the Director of Public Health sets this in the context of the pandemic arguing that:

> *"not everyone has been impacted the same and there is a risk that as well as the spread of the pandemic being along fault lines in wealth, health and social protection, there are concerns that COVID-19 could become a disease of the unvaccinated, the poor, those with chronic health conditions and those unable to access health services"* (Doncaster Council, 2021c, p. 21).

The pandemic has not created new inequalities, but it has uncovered and exacerbated existing inequalities. The impact on existing inequalities between people from different ethnic groups is particularly stark (Public Health England, 2020). Throughout the pandemic a range of actions were undertaken in Doncaster to address these inequalities and the learning with respect to community engagement is pivotal to our proposed engagement work (Doncaster Council, 2021c).

The Council and its Team Doncaster partners[2] are committed to a decade of delivery for residents, communities and businesses guided by Doncaster Delivery Together (DDT) which sets out our **Great 8 priorities** (see Figure 1) (Doncaster Council, 2021b). This provides a sense of ambition and hope beyond COVID, but one shaped by its legacy.

Figure 1: The Great 8 priorities

DDT is underpinned by a shift to be an intelligence-led organisation, identified as one of six shifts required to deliver our services well (Doncaster Council, 2021a, 2021b, 2021d). A HDRC is crucial to this development and will contribute by developing our capacity to use and create

[2] See here for more detail on Team Doncaster https://www.teamdoncaster.org.uk/

knowledge derived from research within our decision-making, and to develop research questions for practice and policy.

Locally, we recognise the challenge of bridging the gap between what is known and what is done (Graham *et al.*, 2006). We have rich insight on how to address this gap (Hampshaw, 2020; Hampshaw, Haywood and Chambers, 2020). As a collaboration (Council, TUoS and SHU), we have long-standing and trusting relationships. As a Council, we are beginning to see ourselves as a part of the public health research landscape. We know that being a research active organisation will improve local practice and local outcomes by embedding cutting-edge knowledge into our work and that good quality research can help us maintain a focus on our mission (Evans and Hampshaw, 2020b, 2020a). By hosting a HDRC we will accelerate our progress to improve health. We will target research activity on tackling inequality and using and developing knowledge on how **to increase healthy lifespans** using mechanisms inherent in our better understanding of the wider determinants of health.

Delivery Plan

Our vision, aims and objectives

Our vision is simple:

We will focus on further growing our capacity to develop and use knowledge within our decision-making processes leading to better outcomes for our citizens.

Our overall aim is to build pathways to research excellence that deliver a sustainable and applied research culture in Doncaster. This delivery plan is underpinned by our:

- rich understanding of current research activity in Doncaster arising from our LARS funded research project. Thus we understand the challenges and the steps needed to further develop an applied research culture;
- recognition of the conditions needed to build on existing pockets of research activity to create a research culture within which knowledge is developed, transferred and used to improve our decision making leading to sustainable culture change;
- ambition within our Borough Strategy to be an intelligence-led and connected Council.

Our objectives are two-fold and interconnected:

1. To ensure enhanced use of research evidence to inform decision-making aimed at improving health and tackling inequalities across all functions and departments (WS1);

2. To build capability, capacity and motivation to undertake research and development to address the wider determinants of health across our HDRC (WS2).

Multiple steps, engaging at different levels,[3] are needed to achieve these objectives. These interconnected steps will build momentum or cultural change across the collaboration as a whole. This delivery plan is built on our **TIDES** principles:

[3] see appended flowchart and logic model

1. Work within each work stream, will be **T**heory-**I**nformed, harnessing theories on knowledge mobilisation, research capacity development, and behaviour change;
2. We will Learn by **D**oing and share our learning;
3. We will ensure we do not privilege some voices/ ideas above others (**E**quity);
4. We will ensure our collaboration is a pathway to **S**ustainable and applied research in Doncaster.

Local government is well placed to address inequalities and the social determinants of health that drive them (Local Government Association, 2018, 2020). It is **key to shaping Place** and is able to bring key agencies together at a local level. Local government is similarly well placed to make progress on **adding life to years**, with Public Health teams being now well established within local government (Local Government Association, 2022). Evidence derived from academic research can enhance this role. However, two specific challenges persist:

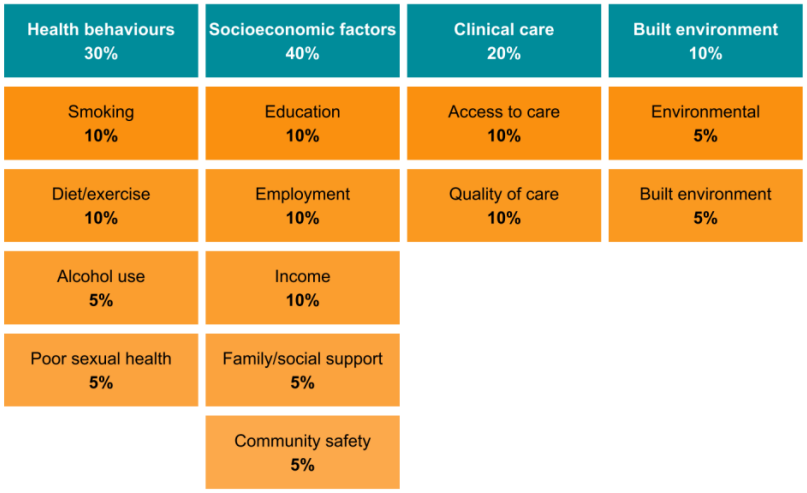
Firstly, we need to extend our understanding of all factors that influence and enhance health. As the Academy of Medical Sciences identified:

> *'there remains much we do not know about the complex array of interlinking factors that influence the health of the public, and about how to prevent and solve the many health challenges we face as a population*" (The Academy of Medical Sciences, 2016).

Building research capacity within local government will contribute to this knowledge base by addressing research questions that arise from practice (Cooke, 2005a, 2020). It will also develop our collective understanding of relevant research priorities. Our approach to delivering the HDRC will build this understanding through co-production techniques (Cooke *et al.*, 2015, 2016; Langley, Wolstenholme and Cooke, 2018; Cooke, Mawson and Hampshaw, 2022) by identifying priorities with local people, communities, community organisations, academics, Elected Members and local government officers (LGOs) (see section on stakeholder engagement and public involvement). We will specifically develop an approach to address unequal power within these prioritisation exercises using creative methods (Langley, Wolstenholme and Cooke, 2018; Tod *et al.*, 2019). We will embed the **TIDES** principle of **E**quity by working to ensure we do not privilege some voices, ideas or 'ways of knowing' above others, in other words, we aim to address epistemic injustice (Fricker, 2016).

Locally, we use work by the Robert Wood Foundation to frame our thinking on the wider determinants of health and the limited role that clinical care plays in health outcomes (Robert Wood Foundation, 2021). This helps us understand and explain that inequalities in patterns of ill health are caused by multiple complex factors: socio-economic e.g. the availability of work, education, income, housing and amenities; lifestyle and health-related behaviours e.g. smoking, diet and physical activity; healthcare factors e.g. access to services, understanding of the needs of the population, prevalence of disease and personal factors e.g. age, gender, ethnicity, genetics. All of these factors contribute towards the likelihood an individual will develop ill health. The Robert Wood Johnson Foundation estimates the relative contribution of each factor outlined in Figure 2 below (Local Government Association, 2018).

Figure 2: Relative Contributions of the Determinants of Health



Source: Robert Wood Johnson Foundation and University of Wisconsin Population Health Institute. Used in US to rank counties by health status

Secondly, there exists a need to develop a culture across local government to make enhanced and innovative uses of research evidence, which is blended with local evidence. This combination of evidence can then effectively inform decisions aimed at improving factors that determine how healthy we are. In other words, the challenge is to develop capability, capacity and motivation (individual, team and organisational) to mobilise knowledge and close the gap between what is known and what is done.

Work streams

We intend to develop two work streams. These are set out below and highlight initial key activities to provide an overview of our envisaged impact. Within each work stream, we identify **(IN UPPER CASE)** particular input/expertise from co-applicants. It is important to note that our key investment will build on the embedded researcher model (Cheetham *et al.*, 2018, 2019) used within the LARS study extending and expanding this asset to support both work streams. Cheetham (2019) found that embedded researcher roles '*offer opportunities to generate and sustain links between policy, practice and academia' but face challenges in implementation'.* We would argue that the longer-term investment in embedded research, as a result of an HDRC, may address problems in implementing embedded researchers in local government. Therefore, four co-applicants, based in our two partner universities, will become HDRC-funded embedded researchers with a remit to facilitate our understanding of the barriers to developing research capacity and integrating research into decision-making processes.

Work stream 1: Knowledge Mobilisation

How we will operate

WS1 embeds our **TIDES** principle of being **T**heory-**I**nformed by drawing on knowledge mobilisation theories and internationally recognised expertise in research synthesis within our HDRC **(BOOTH)**.

Work within WS1 will strive to embed a sustained culture of research and evidence within Doncaster Council.

We know that decision-making in local government is complex; multi-staged and, above all, takes place in a political setting. Disagreement about what constitutes evidence acknowledges that knowledge extends beyond that which is research derived (Pawson *et al.*, 2003). Evidence cultures in non-health sectors demonstrate *'considerable latitude'* in defining 'evidence' (Tyner *et al.*, 2013). Local government decision-making presents a complex and varied picture of research use across England (Allen, Grace and Martin, 2015). One such study, of decision-making in public health policy and practice, found that evidence derived from research was used instrumentally by stakeholders to advance specific agendas, not to inform complex decisions (Sanders *et al*., 2017; Grove *et al*., 2019). Its authors report how decision-making is often reinforced by a transactional business ethic. This idea of transaction and knowledge exchange extends to our own realist inquiry on the use of evidence within English local government (Hampshaw, 2020). Political, practical or technical knowledge was exchanged within a decision-making process characterised by bounded rationality (Lindblom, 1959, 1979). This required mutual respect between, for example, officers and elected members, often created through a mechanism of trust (Hampshaw, 2020). Decision-makers need to develop the *'craft'* of balancing complementary, competing or conflicting knowledge types. Pivotal, therefore, within this work stream is recognition of the importance of knowledge transactions within local government decision-making and the consequent opportunity to develop this *'craft.'* We intend to build cohorts of decision-makers skilled in the *'craft'* of balancing knowledge and using these skills within decision-making conversations. The appetite to do this within Doncaster, is evidenced by our shift to becoming intelligence-led and by current work to revise decision-making processes. Doncaster Delivering Together embeds the reach of ambition and delivery into our communities and uses the mechanism of Locality Working including the development of Locality Plans, shaped by community voices. We will mobilise knowledge derived from research within this spatial perspective to engage local government officers, elected members and local people. We will develop timely, creative and actionable knowledge tools, which will synthesise what we know locally with knowledge derived from research. We will focus on mechanisms that can best support exchange of synthesised knowledge within these decision-making processes (Hampshaw, 2020).

BOOTH will operate as an embedded researcher within this work stream. **HAMPSHAW** has long established academic and experiential credentials in this area and will work as co-lead in partnership with **BOOTH.**

Key activities within WS1[4]

Our intention is that, over the 5 years, activity within WS1 will extend, develop and respond as we learn more. However, we have identified several initial key activities based on our understanding of decision-making within local government.

Mapping exercise: We will begin by identifying opportunities for what needs to be done differently and what barriers may exist. Examples of barriers may include cultural factors such as motivation to work in this way (Michie, van Stralen and West, 2011) (**ARDEN**) or more practical issues such as access to the evidence base via, for example, academic databases. We will harness expertise within the Council's Policy Insight and Change function and on-going work to review decision-making processes **(TILLMAN)**. This activity will increase understanding within Doncaster of how to 'go about knowing' and use this knowledge to improve decision-making. *Anticipated outcome: action plan based on mapped opportunities and barriers*.

Development and dissemination of Evidence Briefings: We will then schedule, commission and disseminate timely research evidence briefings to inform decision-making. We intend to use innovative and creative methods (Carrol *et al.*, 2006; Wilson *et al.*, 2017; Appleby, Cowdell and Booth, 2021) to produce these briefings, combining a theoretical understanding of the development of evidence and our local experience in developing actionable insight to support the Covid-19 response. We will co-produce a communication plan that enables us to identify key messages for different audiences (Coon *et al*., 2022). *Anticipated outcome: production of timely, targeted and useful evidence briefings.*

Skills development: We intend to develop cohorts of skilled local government officers (LGO) and other stakeholders. This skills development will embed the **TIDES** principle of Learning by **D**oing and will utilise learning sets and After Action Reviews. We will focus on developing evidence synthesis skills (combining evidence derived from academic research with what we know locally) and crafting skills in the production and exchange of knowledge resources. This activity will draw on the workforce development expertise within the authority **(PARKER).** *Anticipated outcome: skills embedded into practice and the way we work.*

Process evaluation: We will pilot and evaluate these approaches, particularly our use of creative techniques, and modify as necessary to ensure they are relevant, timely and sustainable within Council decision-making processes. We will share this learning across the sector and invest in evaluation capacity. *Anticipated outcome: map of impact within Council decision-making processes.*

Outputs, impact and sustainability

Outputs from WS1 will be actionable insights i.e. synthesised knowledge derived from academic research and local understandings prepared for use within the knowledge exchange processes we will prioritise.

We envisage our HDRC will have internal (and by internal we mean Doncaster as a Place) and external impact. Internally, building cohorts of motivated decision-makers who are '*savvy in the craft of evidence use'* will, in and of itself, ensure we routinely make enhanced use of research evidence to inform local decision making. These decision-makers and the infrastructure

[4] see appended flowchart

supporting them will ensure **S**ustainability of this way of working by de facto becoming business as usual. In other words, WS1 will support our shift to becoming an intelligence-led council. It will build skills to mobilise knowledge on what works for whom and in what circumstances to support commissioning and policy decisions and therefore improve outcomes for the citizens of Doncaster.

Externally, our HDRC will contribute to knowledge on how to synthesise and mobilise evidence within local government. We intend to share this knowledge (including our **TIDES** principles) with other HDRCs, other Councils, and the Office of Health Improvement and Disparities (see letter of support); through our networks such as the Practice and Research Collaborative within Yorkshire and Humber (https://www.parc-hub.co.uk/), and through practitioner-orientated as well as academic publications. We will set up learning visits with other HDRCs and have agreed to 'buddy' with the proposed London Borough of Islington HDRC as an initial step. We will offer learning visits to neighbouring authorities and support their application to future HDRC funding rounds.

Over time, we intend our learning on what works in knowledge mobilisation within local government to contribute to a broader national /international agenda. Specifically, work to improve actionable insight from research studies and the development of actionable tools (Hampshaw, Cooke and Mott, 2018) as an output within applied research. More immediately, we will use our learning to shape the framing of research questions and subsequent methodologies arising out of WS2.

Work steam 2: capability, capacity and motivation building

How we will operate

WS2: focusses on capacity building to do research and operates at individual, team and organisational levels.

Findings from our LARS project identified areas requiring investment to build research and development capacity within the Council. Doncaster Delivery Together demand intelligence-led interventions. Over time investment in Doncaster will support our ability to test and scientifically evaluate interventions.

The relationship between evidence, policy and practice is complex and '*nuanced, dynamic, political and contested'* (Boaz *et al.*, 2019). Research capacity development (RCD) is fundamental to closing the gap between what is known and what is acted upon (Cooke, Gardois and Booth, 2018). RCD has been defined as 'a *process of individual and institutional development which leads to higher levels of skills and greater ability to perform useful research'* (Trostle, 1992). We believe this is a helpful definition for local government and used this within our LARS project. Cooke ***et al's*** (2018) realist synthesis examined the numerous frameworks and models for RCD finding little evidence of what works for whom and under what circumstances. They identified mechanisms or candidate interventions (and validated these with findings from 10 systematic

reviews) to support RCD. The synthesis revealed eight programme theories some operating at a symbolic level e.g., positive role models and others proving more instrumental e.g. *liberate talents, release resources* (Cooke, Gardois and Booth, 2018).

No studies propose RCD mechanisms for English local authorities, whose policies and practice affect wider determinants of health (Kennedy, 2021). Secondary analysis of Doncaster Council's LARS data was undertaken for a Master of Public Health (MPH) dissertation by a Public Health Specialty Registrar on placement (Kennedy, 2021). This work was supervised by one of our LARS embedded researchers (**HAYWOOD**). It identifies themes relevant for RCD emergent from interviews with English council informants, comparing these with principles proposed in Cooke's framework (2005b) and the 2018 synthesis. The mechanistic and cultural determinants of doing and using research in Doncaster were found to comprise: **collaboration; making a difference; indications of expectations and importance of research; the relationship between research, practice, and policy; resource and capacity; and research as everyone's business**. Interview themes demonstrated good affinity with RCD programme theories from the 2018 realist synthesis and total agreement with RCD principles in the 2005 evaluation framework. This indicates that, these propositions are likely to extend beyond their immediate setting to continue to apply to English local authority RCD and to inform the theory of change and evaluation (respectively) of RCD interventions in a local government context.[5] The Doncaster LARS study identified an appetite within the Council to do research. WS2 is underpinned by current literature, which will inform the initial **T**heory-**I**nformed activities, further embedding this key **TIDES** principle.

GOYDER, HOMER and HAYWOOD will operate as embedded researchers within this work stream. As WS2 develops, particularly in terms of our understanding of our local research priorities we will draw on topic expertise from **COPELAND** and **FERRARI** and policy expertise from **ALLEN, SUCKLING, SWAINE and TILLMAN**.

Key activities within WS2[6]

We know these activities will develop as we Learn by **D**oing. However, our understanding gleaned from the LARS study and the above analysis suggest the following initial activities:

Skills & career signposting: We intend to seek out and nurture cohorts of 'research interested' Local Government Officers and 'local government /wider determinant interested' Early Career Researchers from non-traditional /multiple disciplines using the HDRC as a Hub and signposting and supporting applications through, for example, the NIHR Academy local government fellowship programmes[7]. We will also develop individuals by signposting and supporting access to, for example, First Steps into Research[8]. We intend to offer placements /training opportunities for apprentices, Public Health Speciality Registrars, Local Government Association graduate scheme, and MPH students. These will be extended to colleagues in, for example, housing and transport and will also utilise apprenticeship opportunities **(PARKER, SWAINE).** *Anticipated*

[5] paper under preparation (Kennedy, Hampshaw, Haywood, and Cooke)
[6] see appended flowchart
[7] As a Council, we are supporting two of our officers to apply to the 2022 PLAF programme and will act as Host Organisation if these are successful**. HAMPSHAW** is also acting as mentor to an applicant in Sheffield City Council and is supporting the training programme of an applicant in North Yorkshire County Council. Supporting officers from neighbouring Councils to apply for such funding is a practical means of sharing our learning.
[8] **HAMPSHAW, POWELL-HOYLAND** and **HOMER** are currently mentors on this programme.

outcome: research active individuals across departments, promoting linkages into NIHR and academic networks

Invest in governance systems: Within the council, we have a research governance process, experience of hosting portfolio and other research projects, and in developing collaborative agreements. We are developing research governance expertise and envisage the HDRC as providing opportunities to consolidate and build on this. Our local NHS provider trusts have offered peer support in this area. We intend to increase awareness of these processes and to support internal staff and members of our collaboration to navigate the systems so that they are an enabler of research. *Anticipated outcome: efficient research governance system that enables research based on the needs of Doncaster.*

Research priority setting: As stated above, we are keen to focus on work that can help us **add life to years.** We intend to undertake research prioritisation and consensus building exercises using approaches that ensure we do not favour some voices over others. We will initially need to negotiate parameters within priority setting, to ensure we focus conversations on developing understanding of the factors that influence and enhance health (wider determinants) and upstream intervention within local government policy levers. Rather than, for example, research priorities focussed on experiences of accessing and navigating social care.[9] We have some understanding of what matters to local people through data gathered to support Locality Planning using appreciative inquiry methods (Cooperrider, Whitney, and Stavros, 2003) and Doncaster Talks survey tools (https://www.doncastertalks.com/). Once we have an understanding of our research priorities, we will seek opportunities to apply for relevant funding. We anticipate the investment in embedded researchers and new research officers will enable us to Learn by **D**oing and undertake locally commissioned research. *Anticipated outcome: clear research priorities and programmes of research.*

Develop stakeholder engagement: We expand our approach to stakeholder engagement below. Here we simply emphasise that this work will embed the **TIDES** principle of Equity (ensuring our HDRC does not favour some voices or ideas or ways of knowing above others). This activity will draw on local community centred approaches exemplified within Well Doncaster (https://welldoncaster.uk/) and participatory research expertise within our collaboration **(POWELL-HOYLAND).** *Anticipated outcome: clear co-produced research priorities.*

Building the collaboration: Hosting a HDRC will enable us to make better use of existing and developing NIHR infrastructure e.g., ARC, CRN, RDS, School for Public Health Research, School for Social Care and Curiosity Partnership to address local wider determinants of health in a systematic and sustainable way. Our LARS project identified that we often used research methods e.g., surveys, interviews, analysis of routinely collected data to support service improvement, evaluation of strategy development. We plan to capitalise on an opportunity to utilise capacity, capability and resources within the council **(TILLMAN)** whilst also drawing on local academic expertise, to deliver high quality research and evaluation. Our research priorities exercise will identify topic areas suitable for robust evaluation and seek to evaluate these as a means of building skills by **D**oing. We have recently successfully submitted an intervention for

[9] As a Council, we are part of the NIHR funded Curiosity Partnership (https://www.york.ac.uk/spru/projects/the-curiosity-partnership/) which is focussing on capacity building with social care. Our Director of Adult Social Care (Phil Holmes) and HAMPSHAW were both co-applicants. We have identified scope for cross fertilisation between the Curiosity Partnership and the Doncaster HDRC and in particular around approaches to evaluation. We have uploaded a letter of support describing this opportunity. One of the PLAF applicants identified above will, if funded, be supported by academics from within the Curiosity Partnership.

evaluation on the Council's Compassionate Approach to Weight under the NIHR PHIRST Scheme (Public Health Intervention Responsive Studies Teams) and intend to continue to develop such applications. We will aim to develop and will invest in research partnerships /communities of practice linked to locally identified research priorities on wider determinants e.g. health and housing, economic participation. *Anticipated outcome: apply for further funding together with proposals developed through co-production*.

Data use /linkage: We will be pragmatic and build on our strengths as both a Place and within our collaboration. For example, we are working together on the Born and Bred in Doncaster (BaBi-D) research programme (https://www.dbth.nhs.uk/babi-d/). Expert researcher support is provided by our partner universities - TUoS and SHU – and the programme aims to help improve the health and wellbeing of children and families across Doncaster, maintaining a strong focus on health inequalities and inclusion. The data provided from this cohort study will help the partnership to gain a better understanding of what local families want and need from healthcare services across the borough. By joining up and linking data around a cohort, we will have a rounder and more multifaceted understanding of peoples' lives and their interactions with services. This will ensure locally commissioned services are inclusive, with consideration of additional research for further understanding and improvement for our local population. **We recognise that data sharing and data science is an enabling methodology for developing research capacity in local government**. Our approach from working together within Covid response epitomises the findings of Malomo & Sena (2016) who suggest that the challenge and opportunity in Local Government is to create an ecosystem of joined up data to reach new insights rather than merely building large scale 'big data' sets

We will Learn by **D**oing and the data linkage and data science inherent in this project are linked to Doncaster Council's Digital Lab data accelerator, aiming to increase our data maturity as an organisation. One of the major accelerator projects for the Digital Lab is to increase our linked data sets to identify vulnerability or unmet need in our population. There are also opportunities to explore how we can enhance our routine data collection in terms of quality, accurately recording data on the protected characteristics, for example, or building in recording of quality of life indicators for evaluation, improvement or research purposes[10]. *Anticipated outcome: routine data sharing for policy, practice and research purposes.*

Evaluation: Building on our LARS study we intend to undertake a baseline survey (repeated at intervals over the 5 years. We will utilise the VICTOR (visible impact of research[11]) tool to help us understand our impact as we learn by **D**oing. As a Council, we are a pilot organisation for the NIHR Research Equality Framework. We have used the self-assessment tools within BaBI D research project to help us ensure that every person eligible will be able to be offered the same opportunity to take part regardless of protected characteristics. We will learn from this experience and embed this way of working within our HDRC helping us to operationalise our **TIDES** principle of **E**quity. *Anticipated outcome: understanding of impact.*

Outputs, Impact and Sustainability

We have used programme theories[12] to underpin our key activities outlined above. As we Learn by **D**oing, we will further refine these theories in the context of local government and build capacity

[10] **HAMPSHAW** is on the Advisory Group for the E-QALY - Team (sheffield.ac.uk) and **COOKE** (proposed member of our advisory group) is on the E-QALY's project's steering group.
[11] https://www.nihr.ac.uk/blog/a-victor-y-for-measuring-research-impact-in-the-nhs/12081
[12] see appended flowchart

to undertake research to address the wider determinants of health. We intend this learning to be a key contribution to the development of HDRCs more broadly and to the knowledge base on building research capacity. We intend to disseminate our learning and will co-produce a communications plan with our stakeholders (including public advisors). In time, we anticipate outputs from WS2 are likely to take the form of actionable tools (Hampshaw, Cooke, and Mott, .2018).

We are keen to ensure financial sustainability for our HDRC and recognise that this is a key aspect of our work over the next 5 years. Within WS2 a key criterion for our success is sustained employment of embedded researchers (either practitioner-academics or academics from multiple disciplinary and non-traditional backgrounds) focussed on extending our understanding of the wider determinants of health and developing and evaluating interventions to address these issues. We also envisage sustainability through harnessing the public health degree level apprenticeship; offering placements via the LGA graduate programme; deanery for public health registrars and placements for MPH students within our HDRC. We anticipate applying for grant funding from the NIHR / research councils (including supporting personal awards) to explore the research priorities we identify within this work stream. We will also seek grant capture from other sources such as the Department of Levelling Up, Housing and Communities. Through our partnership with the Advanced Wellbeing Research Centre (AWRC) at SHU, we will build relationships with start up's, innovators and pre-revenue companies as part of the Wellbeing Accelerator. The AWRC will provide 'in-kind' support from the Wellbeing Accelerator team to enable this to occur. The strong connection to business and industry, as well as the public sector will lead to inward investment and employment opportunities and will help build the local economy. The AWRC also has relationships with larger and global organisations like Canon Medical and Westfield Health and has a track record of securing Innovate UK funding to host Knowledge Transfer Partnerships and industry-led and public-sector led trials.

Stakeholder engagement and public involvement

During bid development, we have actively informed and engaged elected members via Member Seminars on research active places, at the Health and Well Being Board (HWBB) and via our Place based Horizon, Policy and Design Group The Cabinet Member for Public Health, Leisure, Culture and Planning has received regular briefings, continues to be engaged in this process and will be part of the steering group (see Figure 3). We have political support. If our bid is successful, we will continue these conversations.

We also recognise the importance of engaging with local authority staff to build momentum for both doing and using research within the council. We have established and will continue to invest in a **Doncaster Research Network (DRN)**, which will act as the skills and knowledge hub. DRN will be a place to exchange ideas and establish communities of practice. We will establish both

an internet and an intranet presence for the DRN and will utilise the functionality such as channels and chat within Microsoft Teams to ensure this engagement follows principles set out in our organisational Ways of Working. DRN will be accessible across our collaboration including public contributors to this work and we have allocated resource to facilitate this.

We intend to invest in capacity building for public engagement and will adopt the UK Standards of Public Involvement (NIHR Centre for Engagement and Dissemination, 2021). Learning from our Well Doncaster programme confirms the importance of on-going community conversations to build healthy communities (NICE, 2016; South *et al.*, 2018; Suckling, Powell-Hoyland and Nicholas-Henandez, 2021; Well Doncaster, 2021). Our COVID-19 response included investment in developing better links within our communities particularly with respect to minority citizen groups (Doncaster Council, 2021c). Public engagement will build on existing infrastructure such as the Minority Partnership Board (see supporting letter) and the Get Doncaster Moving Residents Panel (https://getdoncastermoving.org/about) and the proposed Doncaster Wellbeing Commission. We will use the participatory methods adopted by Well Doncaster and aim to ensure we do not hear some voices above others. We will invest in a public engagement coordinator post and resources (including training **ARDERN, FERRARI and HAMPSHAW)** for public involvement. These activities will be informed and supported by the experiential knowledge and leadership of **POWELL-HOYLAND** our embedded researchers **(HOMER, HAYWOOD and GOYDER)**, local NHS anchor organisations (see supporting letters) and specific expertise from within our advisory group. Our research prioritisation exercise outlined in WS2 will have **E**quity at its centre and we will use creative methods to help address power differentials within co-production (Cooke *et al.*, 2016; Langley, Wolstenholme and Cooke, 2018). We will also build on work described above on implementing the NIHR Race Equality Framework within our BaBI D work, extending this to include other protected characteristics. Over time, we envisage resident co-applicants on research funding bids.

Project management and delivery

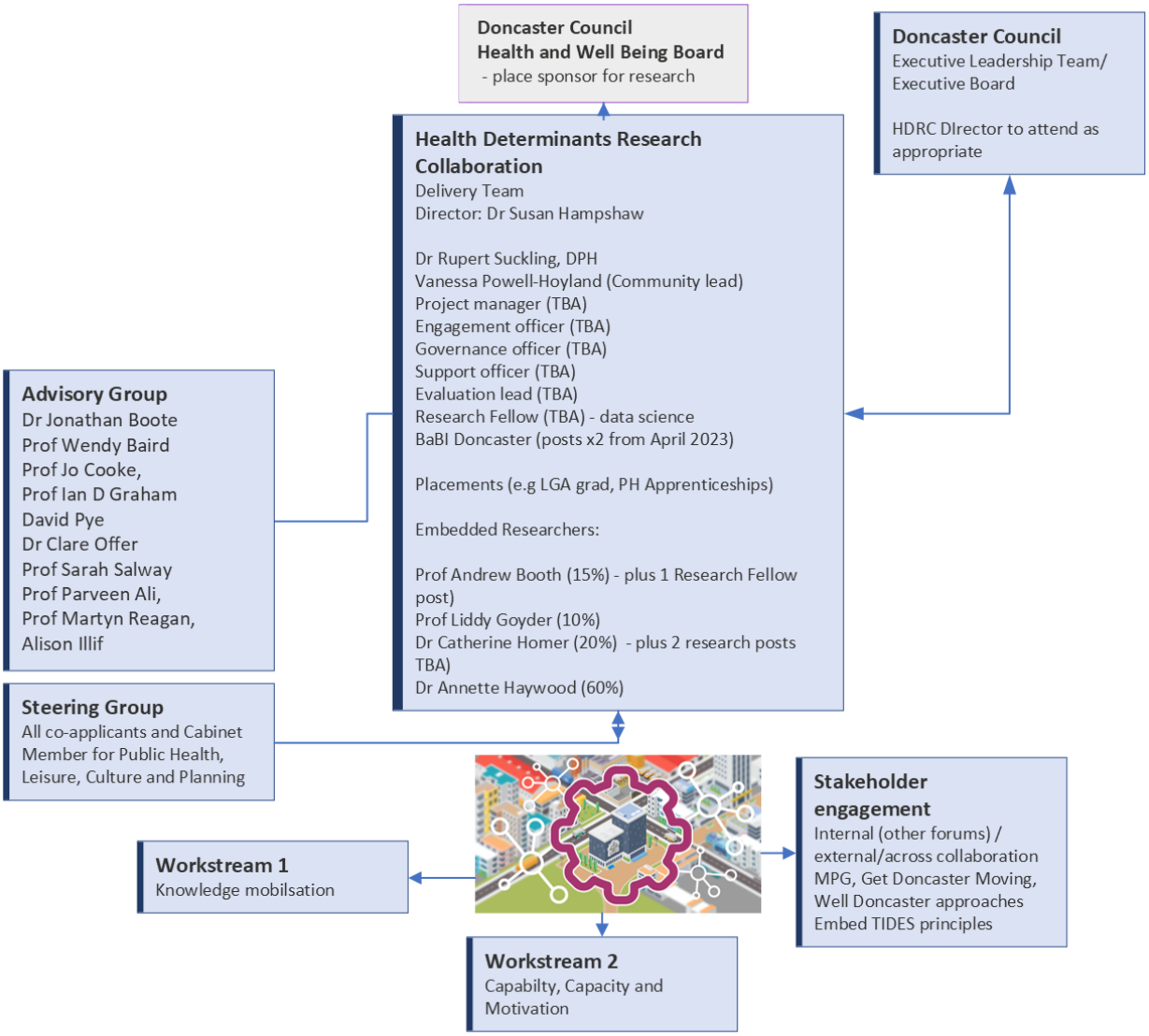
Leadership, staffing and governance structures

Our proposed Director, Dr Hampshaw is currently a practitioner-academic. She has benefitted from NIHR funding in her career progression illustrating one of our identified capacity building mechanisms: *liberating the talents* (Cooke, Gardois, and Booth, 2018).

Dr Hampshaw will be responsible for the overall leadership of the HDRC, taking responsibility for project milestones, governance and dissemination of outputs within Doncaster and across regional networks. She will specifically co-lead work within WS1 building on her existing expertise in this area. Dr Hampshaw will hold a joint post between The University of Sheffield and Doncaster Council. As illustrated in Figure 3 below this post will report directly into the Council's Executive structures.

We will form a project steering group, which will meet quarterly, comprising all co-applicants plus the Cabinet Member for Public Health, Leisure, Culture and Planning. We will have an operational/ delivery team effectively the delivery *'backbone'* consisting of the HDRC Director, the Director of Public Health, the proposed engagement, finance, governance and evaluation officers. Our embedded researchers (Professors Goyder, and Booth; Drs Homer and Haywood) will be a key part of this team. Professor Suzanne Mason (TUoS) will supervise the data science post, based at Doncaster Council and embedded within the Digital lab. This will help build on learning from the NIHR funded project: 'Unlocking the data to inform public health policy and practice' and support us to further utilise routine data for improving health interventions and outcomes.

Figure 3: Overall governance structure for Doncaster HDRC



Our independent Advisory group will act as a critical friend and provide expertise in key areas of our HDRC (see table below). The advisory group will meet virtually on a bi-annual basis. However, we anticipate more frequent communication on specific areas of our work. We also intend recruiting to a lay advisory group:

Area of expertise	Proposed advisory group member
Public involvement	Dr Jonathan Boote
Research design and training	Prof Wendy Baird, Director of the NIHR Research Design Service (RDS) for Yorkshire and Humber
Research capacity development, and knowledge translation and mobilisation	Prof Jo Cooke, Professor in Research Capacity, University of Sheffield and Prof Ian D Graham, Senior Scientist, Centre for Practice-Changing Research, Ottawa Hospital Research Institute
Research in local government	David Pye, Research and Information, Local Government Association, Dr Clare Offer, Consultant in Public Health, Wakefield District Council
Inequalities and wider determinants of health	Prof Sarah Salway, Professor of Public Health, Department of Sociological Studies, University of Sheffield, Prof Parveen Ali, Professor of Nursing, University of Sheffield, Prof Martyn Reagan, Professor for Public Health and Adult Social Care, University of Manchester, Alison Iliff, Health and Wellbeing Programme Lead, Office for Health Improvement and Disparities

Expertise

The table below sets out the roles and expertise of co-applicants within our collaboration:

Co-applicant	Organisation	Role	Expertise
Dr Susan Hampshaw	Doncaster Council	Proposed Director of HDRC, overall leadership of the HDRC, (responsibility for project milestones, governance and dissemination of outputs within Doncaster and across regional network), co-lead WS1	Knowledge mobilisation, use of evidence within local government, 20+ years boundary spanning roles
Dr Rupert Suckling	Doncaster Council	Steering group Delivery Team	Policy and strategy development and delivery
Damian Allen	Doncaster Council	Steering group	Governance and leadership, policy and strategy.
Dan Swaine	Doncaster	Steering group	Director of Economy and

Co-applicant	Organisation	Role	Expertise
	Council		Environment; policy, wider determinants expertise
Lee Tillman	Doncaster Council	Steering group	Data science, experienced Assistant Director with a track record of achievement in local government. Skilled in Policy, Strategic Planning, Stakeholder Management, Strategy, and Change Management.
Jill Parker	Doncaster Council	Steering group WS1 and WS2	Workforce development; skilled and experienced senior practitioner predominantly in the public sector.
Vanessa Powell-Hoyland	Doncaster Council	Steering group Delivery Team Community lead (stakeholder engagement)	20+ years of community centred approaches for over 25 ensuring resident voice. Turning community engagement into the application of evidence for practice, social action practice portfolio includes: the wider determinants of health, community development and resilience and Well Doncaster
Professor Elizabeth (Liddy) Goyder	The University of Sheffield	Steering group Delivery Team WS1 & WS2 **Embedded Researcher**	Health inequalities research; cross-sector and cross-disciplinary research partnerships; participatory research methods
Professor Andrew Booth	The University of Sheffield	Steering group Delivery Team Co-lead WS1 **Embedded Researcher**	Knowledge mobilisation/evidence synthesis. Twenty plus years' experience of developing synthesis outputs/briefings for National Library for Health, SCIE and National Assembly for Wales etc.
Dr Annette Haywood	The University of Sheffield	Steering group Delivery Team WS2 **Embedded Researcher**	Embedded researcher at Doncaster Council since 2020.

Co-applicant	Organisation	Role	Expertise
Professor Madelynne (Maddy) Arden	Sheffield Hallam University	Steering group WS2	Behaviour science; theory informed (including COM-B) behavioural analysis, behaviour change and maintenance.
Professor Rob Copeland	Sheffield Hallam University	Steering group WS2	Provide support to build research capacity and capability. Research leadership experience with strong research trial and pragmatic evaluation expertise.
Professor Ed Ferrari	Sheffield Hallam University	Steering group WS2	20+ years of research into place-based policies and outcomes, including relationships between health factors and social and economic outcomes.
Dr Catherine Homer	Sheffield Hallam University	Steering group Delivery Team WS2 **Embedded Researcher**	PI on Wakefield NIHR LARS study (2020) previous roles in Local Government.

Implementation milestones

Please see uploaded Gantt chart for detailed milestones. Here we set out success criteria and we have related these to our **TIDES** principles, as embedding these in our HDRC is a clear measure of success. Please note an early action would be to communicate more broadly these TIDES principles and co-produce further success criteria with our stakeholders.

TIDES principle:	Success criteria:
Theory-**I**nformed, harnessing theories on knowledge mobilisation, research capacity development, and behaviour change.	• We will evaluate the impact of using Theory-Informed approaches and refine these theories as we Learn by **D**oing.
We will Learn by **D**oing and share our learning.	• We will learn using After Action Approaches to continually improve. • We will offer opportunities for others to learn from us e.g. learning visits, placements and apprenticeships. • We will contribute to the knowledge base on decision making in local government, research capacity building, understanding on the wider determinants of health.
We will ensure we do not privilege some voices/ ideas above others (**E**quity).	• We will have local residents as co-applicants on research projects. • Our research priorities and dissemination plans will be co-produced. • There will be greater levels of user (staff and client) satisfaction, better outcomes and the ability to attract and retain our workforce.
We will ensure our collaboration is a pathway to **S**ustainable and applied research in Doncaster.	• We will have vibrant and sustainable Doncaster Research Network of motivated decision-makers who are 'savvy in the craft of evidence use' and embedded researchers (either practitioner-academics or academics focussed on methods to address health determinants). • Intelligence-led approaches/ interventions are hard wired into our decision-making processes and workforce development strategies. • We will have made a significant contribution to data linkage and data maturity. • We will have secured grant capture (including personal awards) to support investigation within our identified research priorities.

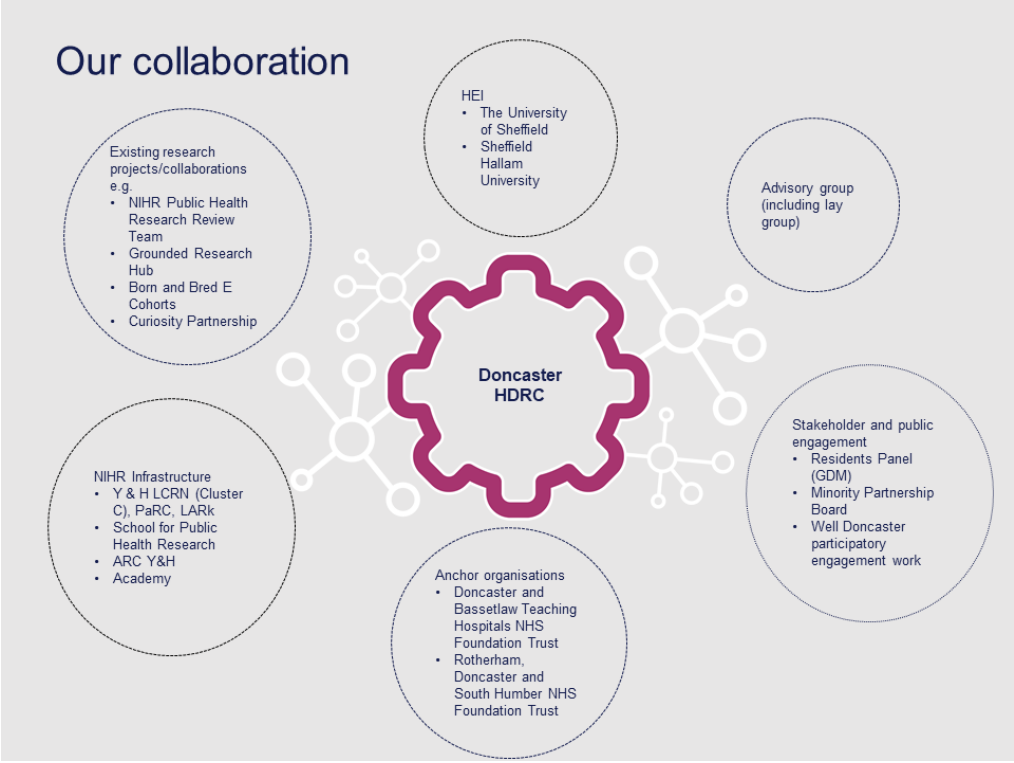
Approach to Collaborative Working

The Doncaster HDRC will build on our existing areas of research activity. It will draw on our growing local experiential knowledge of leading and using research within local government. Our proposal also draws on the knowledge (methodological and topic specific) of our two partner universities: The University of Sheffield and Sheffield Hallam University. Our collaboration builds on a long standing and trusted relationship between the three key collaborators. This collaboration extends across Doncaster as a Place and beyond in terms of existing research collaboration/ projects and across NIHR infrastructure. Figure 4 below illustrates this network which will be strengthened and extended throughout the 5 years of our proposed HDRC.

As outlined above, senior colleagues from TUoS and SHU will be embedded as researchers within the Council. We intend to invest considerable resources in the embedded researcher model (including its evaluation). This is based on an emerging evidence base from the EPPI-Centre that suggests the value of embedded research, the need to evaluate, and the importance of senior, experienced academic involvement with methodological expertise rather than more junior researchers learning on the job. This investment decision is also based on our experience of utilising the embedded researcher model during LARS and COVID-19 (co-applicant and named embedded researcher **HAYWOOD**). Additionally, two of our co-applicants **HAMPSHAW** and **POWELL-HOYLAND** currently hold posts that meet embedded researcher definition criterion.

Over the 5 years, we intend to develop a cohort of academics and practitioner-academics specialising in evidence creation and use within local government policy and practice and create opportunities to learn by Doing within this cohort. This ambition is articulated within WS2.

Figure 4: Doncaster HDRC - our collaboration



Co-applicants from the two HEIs will input to our steering group and bring relevant methodological and topic expertise. This expertise has been essential in the development of our bid. For example, within both work streams, we are cognisant of motivating and maintaining momentum to both use evidence derived from research and to conduct primary do research, particularly within the democratic-political context of English local government. A key principle within our HDRC is that our proposed activities are, wherever possible, **T**heory-**I**nformed**. ARDEN** brings particular expertise on behavioural science. We have appended several letters of support representing the organisations identified in Figure 4 and have received offers of additional support since stage 1 (see Letters of Support from Doncaster CCG and the University of York). Over the course of the 5-year investment, we intend to extend this collaboration and share our learning, in particular our emerging understanding of how to **build research capability, capacity and motivation** within local government to address the wider determinants of health. We recognise that each local authority is different depending on their context, capabilities and constitution (Gains, 2009). As such, the research ecosystem in Doncaster not only exists at a different stage to other authorities but also is particular to our context.

Nevertheless, we anticipate that we will share common, and actionable knowledge and we intend to share our learning with other HDRCs and across our networks. We will also support other Councils considering applying for future rounds of the HDRC. We will harness the Cluster C CRN funded public health consultant network to: share learning (e.g., on capacity building), identify common research priorities (e.g., to collaborate on funding bids), and to disseminate outputs to a wider local government geography. We will utilise the PaRC - Practice and Research Collaborative for Yorkshire and the Humber (parc-hub.co.uk) and Local Authority Research Links (LARk) - PaRC (parc-hub.co.uk) communities of practice within Yorkshire and Humber. Co-applicants within this bid **(POWELL-HOYLAND, HOMER, HAMPSHAW, SUCKLING, GOYDER, and HAYWOOD**) are active members of these collaborations. The LARk network has been hosted within Doncaster Council since its inception and is chaired by **POWELL-HOYLAND.** We plan to pursue an opportunity to expand our collaboration within the arts and creative industries within Doncaster, building on the Arts and Health board. We are a Member organisation in the NIHR Applied Research Collaboration (ARC) (West et al., 2021). We host a consultant session funded by the Clinical Research Network (CRN) to develop prevention/public health research capacity.

Our learning from our investment **in public involvement, underpinned by our ambition to address epistemic inequity** will have wider benefits within research practice and public engagement and we intend to share this via appropriate networks.

Finally, this application has been put together by Dr Hampshaw, Head of Service (Public Health: Delivery) Doncaster Council, who is a practitioner-academic spanning the boundary between the academy and practice supported by the collaborators outlined above. We have utilised time funded by CRN Consultant session to lead this work. Details of the TIDES principles, proposed work streams and stakeholder engagement have been presented and further developed via various decision making fora (outlined above). All co-applicants have contributed to the development of this bid. Several proposed advisory group members have peer reviewed /offered guidance on this application.