Full title of HDRC: Building an international beacon for research and innovation in tackling poor health outcomes and inequalities in South Tees

1 Background and Rationale

South Tees comprises of two neighbouring unitary authorities, Middlesbrough and Redcar & Cleveland; whilst separate authorities, they have common strengths, values and assets, a shared public health function and a shared Health and Wellbeing Board, in addition to the large projects described below. Public Health South Tees (PHST) was formed in 2018 and shares a Joint Director of Public Health (DPH), relevant work and programmes. Many strategic stakeholders cover the same or wider geography (South Tees Hospitals NHS Foundation Trust, Tees, Esk and Wear Valley NHS Foundation Trust, Tees Valley CCG, Cleveland Police, Tees Valley Combined Authority and Teesside University (TU).

We currently have large projects across South Tees that will enable us to hit the ground running with the HDRC. South Tees' **Sport England Local Delivery Pilot** [1] is focussed on cultural change, systemic understanding and valuing insight. The **Changing Futures Programme** aims to deliver improvements at an individual, service, and system level for adults with complex problems. The **Whole System Change 1001 Days programme** is jointly sponsored by the Joint DPH and Corporate Directors of Children's and Family Services in both local authorities. **Because the South Tees local authorities do so much jointly, we see sharing a HDRC as an asset and advantage**.

South Tees makes up approximately 40% of the Tees Valley sub-region, within North-East England. South Tees has stark contrasts, comprising the large rural area of East Cleveland, through the coastal communities of Redcar and Saltburn and the urban conurbation that extends along the River Tees into Middlesbrough, the largest settlement of the area.

The health of people in South Tees is generally worse than England averages, with Middlesbrough being identified as the most deprived local authority (LA) nationally at neighbourhood level. Almost half (48.8%) of all lower super output areas (LSOAs) in Middlesbrough are ranked within the 10% most deprived, with Redcar and Cleveland observing a trajectory of increased deprivation between the 2015 and 2019 publication of the national index of multiple deprivation (IMD) [2]. For both areas, life expectancy and healthy life expectancy is significantly below the England average for both men and women. In addition, significant intra-area variations exist between the most deprived and affluent wards within South Tees, with males and females in more deprived wards expected to live around 12.6 years and 12.0 years less in Middlesbrough, and 11.0 years and 7.3 years in Redcar and Cleveland, respectively [3, 4]. Unsurprisingly, these measures are anticipated to have worsened as a result of the COVID-19 pandemic [5-7].

The table below provides a high-level summary of how South Tees compares nationally, in terms of key health outcomes and wider health determinants. These vast inequalities are a product of multiple factors that operate at an individual, social and environmental level. Understanding these determinants, and the role they play in shaping health, is critical to our ability to improve health outcomes and reduce inequalities locally, but additionally provides a unique opportunity to develop a rich portfolio of research, with much broader population benefits.

Table 1: Key data on health outcomes and wider determinants

Indicator	Period	Middlesbrough	Redcar & Cleveland	North East	England
Life expectancy at birth (Male)	*2018-20*	**75.4**	**77.5**	77.6	79.4
Life expectancy at birth (Female)	*2018-20*	**79.8**	**81.5**	81.5	83.1
Inequality in life expectancy at birth (Male)	*2018-20*	**13.4**	**13.7**	12.5	9.7
Inequality in life expectancy at birth (Female)	*2018-20*	**12.2**	**8.4**	10	7.9
Under 75 mortality rate per 100,000 from all causes (Persons <75)	*2018-20*	**494**	**416**	404	337
Income deprivation, IMD	*2019*	**25.1%**	**18.6%**	-	12.9%
Fuel Poverty	*2019*	**16.5%**	**14.4%**	14.8%	13.4%
Unemployment (Persons, 16+)	*2020*	**7.4%**	**6.7%**	6.4%	4.7%
Children in absoloute low income familes (Persons <16s)	*2019/20*	**33.4%**	**22.0%**	22.8%	15.6%
Average Attainment 8 score (Persons 15-16 yrs)	*2020/21*	**47.5**	**48**	49.3	50.9

Significantly worse than England	Higher than England but not significantly

Systemic problems lie at the heart of these inequalities and need a long-term systemic response to support people to value their health and wellbeing [8]. The key drivers for the stalling of both life expectancy at birth and healthy life expectancy in the area are due to the broader changes in wider determinants of health than they are about changes in health care. National and local research has shown that austerity, changes in the welfare system, and the funding cuts to public and voluntary sector organisations is having an impact on people's health and well-being in the region as well as widening health inequalities [24]. These inequalities impact everything from health behaviours to the impact of the environment on wellbeing, with those living in the most deprived areas of the region almost four times more likely to smoke but half as likely to consume 5 portions of fruit and vegetables a day, whilst also being 10 times more likely to live in damp housing and three times more likely to be unable to adequately heat their homes during winter [25].

Alongside a shared aim for improving health and reducing inequalities, **South Tees has some notable levers that would support the realisation of these ambitions**, these include:

- The existence of a formal Public Health shared service arrangement between each LA, offering significant public health expertise and governance, alongside scalable dissemination and research potential across two geographical areas;
- The existence of an expandable Memorandum of Understanding (MOU) between Public Health and Teesside University – providing strong partnership foundations to build a robust research infrastructure;
- The development of previous pilot work (funded by NIHR PHR) to explore how the existing MOU can be developed further to include other departments to develop a research system that will enable the two LAs to become more research active in public health and other areas in the development of a research ecosystem [9, 10];
- Joint appointments of Public Health Consultants across LA and NHS Boundaries to support wider dissemination and research potential;
- Recruitment of a dedicated Research Operations Officer (funded via NIHR CRN North East and North Cumbria)

The above investment has already supported the development of knowledge capital across both Local Authorities. Most recently, this has culminated in a successful three-phase research project that continues to build knowledge and understanding about the impact of Covid-19 on local communities and implications on recovery and future resilience approaches; which have subsequently been embedded in the strategic plans of each LA [11]. In addition, the MOU has resulted in a researcher seconded to Middlesbrough Council for one year to work with practitioners to implement findings and a number of co-produced research projects [11-20] .

This research not only demonstrates the benefits of existing partnership arrangements in building research infrastructure but highlights the commitment of each Council to translate research knowledge into practice.

The pilot work [9] identified a number of barriers to the development of a research ecosystem, specifically:

- Lack of cross-directorate and cross-organisational working on common research challenges;
- Multiple discrete research projects that are rarely translated into practice;
- Lack of meaningful community involvement;
- Capacity building

The HDRC funding will add significant value to this strong research foundation, we have developed a **five-year maturity matrix** model to support the building of research into the planning, policies, and values of each Council. Central to this is the development of a "mission-led research approach", which will harness the collective interest of key stakeholders in accelerating their knowledge and understanding of health determinants as a critical strategy for improving population health and reducing inequalities locally.

2 Vision, Aims, Objectives and Missions

2.1 Vision, Aims, Objectives and Missions Model

We have developed an approach to building our research infrastructure through the HDRC that is clearly connected to a set of system "missions" - moving research closer to policy and practice, improving the relevance and impact of research which in turn will make policy and practice place a greater emphasis on research, stimulating more research activity (see attached logic model).

Figure 1: Vision, Aims, Objectives and Missions

Vision		
South Tees will be an international beacon for research and innovation in tackling poor health outcomes and inequalities.		
Aims		
To build capacity and capability across both Councils to actively (and routinely) participate, use and develop research to inform innovation in practice and deliver real and sustainable impacts to population health	To increase the amount of research investment in South Tees in relation to determinants of health	To harness the anchor potential of key research contributors to build inclusive and sustainable economies as part of the overall research approach.
Objectives		
A.1 To increase research capacity and capability through a dedicated research infrastructure	B.1 To develop a multi-sector research partnership to increase scope and potential of our research to deliver real health impact and drive local research intensity	C.1 To develop a cross-partnership Community-Based Research Programme to build inclusive and sustainable research capacity and use research as a tool to support community wealth building
A.2 To embed an inclusive and sustainable research culture across South Tees, through effective leadership, strategy and governance	B.2 To commission an independent evaluation of our HDRC to support the potential for place-based research partnerships	C.2 To build 'research literacy' in targeted communities through a 'routes to research' approach with schools, colleges and adult education
A.3 To develop a global dissemination strategy to support evidence-base development and wider replication of our HDRC approach	B.3 To create a 10-year research investment programme beyond our HDRC horizon to create sustained investment in research	C.3 To develop recruitment policies that create inclusive and diverse pipelines into research roles and support long-term career progression
Missions		
Create a sustainable and inclusive economy to maximise health and reduce inequalities	Give every child the best start in life	Enable all children, young people and adults to maximise their capabilities and control over their lives

Development Year

The table below responds to each comment point in turn (with comments from the initial meeting in parentheses), describes our proposed actions and proposes stop/go criteria to be met by September 2023 to support our development towards a full HDRC in October 2023.

Comment	Actions	Stop/Go Criteria.	Milestones
<u>Vision</u> Describe how the HDRC would work and how it would achieve the desired outcome (more consideration on how this would be translated into practice - the practical roll out; operationalising the vision)	Conduct and analyse a Training and Workforce Needs Assessment across key directorates, to inform the workforce development plan.	Training and Workforce Needs Assessment completed	
	Define and build our mission-led research ambitions into organisational planning and governance arrangements, development plan(s) and HR performance review processes	To develop a protocol for how this will happen	
	Develop policies for research in both Councils, including how we remunerate for research roles, development of research careers in the local authorities and recognition for research work undertaken.	To develop a protocol for how this will happen	
	All contributing local authority directorates have identified **senior-level research ambassador**, who will have embedded the research review process into their directorate level planning.	Senior level research ambassadors identified	
<u>Culture Change</u> Review culture change with more detail on how a research culture will be embedded across the local authority to ensure sustainability (to be assured there is a vision of embedding across the whole local authorit(ies))	Develop the Partnership (MoU) between Teesside University and Public Health South Tees to include both Councils (across Public Health, Social Care and Regeneration) and all relevant University Departments	Extended MoU agreed across the whole University & both Council(s) to be finalised and signed	
	Develop our approach to process evaluation of our HDRC to "record the journey" of our HDRC	Commission an external, independent agency in readiness to start 10/23	In house process evaluation complete for the development year Feedback to team monthly
	Develop "routes to research" approach across schools and adult education to support improved health literacy and develop a continuous and inclusive pipeline into health determinant research opportunities	Protocol & objectives developed for "routes to research" approach. Protocol & objectives completed for a baseline assessment of health literacy.	

Comment	Actions	Stop/Go Criteria.	Milestones
<u>Community Collaboration, including VCS</u> The panel agreed that PPIE was a strength of the application and noted that members of the public had been engaged throughout the development of the application" (Building community voices into decision making. Some fully-funded have some good examples)	We will work with our community researchers to develop our PPIE components and develop a strategy Call for examples from Newcastle & Gateshead	Strategy developed	Refinement of the PPIE protocol To carry out meetings with the Newcastle and Gateshead teams.
<u>Governance and Leadership</u> Review level of in-kind contributions to delivery how do we mitigate against the risk that time will be drawn away from HDRC delivery. What assurances can we provide that named in-kind contributions have protected time to devote to HDRC?	Teesside University will provide a letter of commitment confirming that time commitments are detailed in all relevant PRPs	Letter of commitment provided	
<u>Inequalities</u> Assurance is needed which ensures the bid focuses on the wider determinants of health described in the interview. ("People" element is well articulated; "place" needs to be better considered, particularly rural and coastal elements of Redcar & Cleveland)	Conduct a health inequality needs assessment to ensure the HDRC optimises opportunities to address inequalities	Joint Strategic Needs Assessment (JSNA) refreshed	
<u>Equality, Diversity and Inclusion</u> The team described plans to ensure EDI in the HDRC	Develop an EDI protocol that covers both:	EDI protocol approved	

Comment	Actions	Stop/Go Criteria.	Milestones
activities. The team recognised that the current workforce does not reflect the diversity of the local population and were working to address this to enable an inclusive and diverse workforce within the HDRC	▪ the HDRC workforce and ▪ the research participants		

2.2 Objectives

Our health is predominantly driven by social and environmental factors, not healthcare. Our HDRC is deliberately designed to target the wider determinants of health through our "mission-led research approach" (see section 2.3) that focusses on three Directorates in each LA that have the greatest influence on these – namely Children's Services, Adult Social Care and Regeneration. Engagement from these areas, using **implementation science** [21-23] and our portal, will generate more policy literate researchers, and research literate policy makers, maximising the impact on the wider determinants of health.

Implementation science is the study of methods and strategies to promote the uptake of interventions that have proven effective into routine practice, with the aim of improving population health. Implementation science examines what works, for whom and under what circumstances, and how interventions can be adapted and scaled up in ways that are accessible and equitable [24]. The field of implementation science has been born as a result of recognising the importance of the gap between research and practice [25]. This gap has expedited the use of multitudinous theoretical constructs, aiming to enhance the implementation process, identify the barriers and facilitators and acting as valuable tools in evaluating implementation [26]. For public health practitioners endeavouring to influence across a system to implement evidence-based practice, understanding the barriers and enablers to practical implementation are critical in the field. Undertaking local level evaluation, with implementation science domains, is a step towards understanding the context in which to apply evidence based research [21]. At TU we have built up significant expertise in translational research and co-production, linked to the Centres for Public Health Research and the Centre of Social Innovation and all the schools at TU. South Tees are currently working with TU on the development of a 'centre of town' strategy to align issues, developments and potential solutions to issues that affect the two centres, including economic regeneration and housing.

We have developed a **five-year maturity matrix** model to support the building of research into the planning, policies, and values of each Council. The objectives detailed below deliver the aims of our programme supporting the progression from our self-assessed current organisational maturity to our desired mature state. Our "mission-led research approach" will harness the collective interest of key stakeholders (see section 4) in accelerating their knowledge and understanding of health determinants as a critical strategy for improving population health and reducing inequalities locally.

A1 To increase research capacity and capability through a dedicated research infrastructure

The values across both local authorities and University are broadly aligned to support research ambitions (see section 3), however there is little consideration of how this is applied in practice. We will recruit and embed a **Research Workforce and a Culture Change Team** with a remit to align organisational values to research ambitions (including building into organisational planning and governance arrangements, development plan(s) and HR performance review processes).

The Culture Change Team will conduct and analyse a **Training and Workforce Needs Assessment** across key directorates, to inform the workforce development plan. In addition, the Research Team will identify and define research portfolios across each directorate, with project and performance support actively contributing to meaningful engagement in the research agenda.

We have secured cross-organisational agreement on our proposed governance and accountability arrangements for HDRC, with clear commitment to implement if successful.

A.2 To embed an inclusive and sustainable research culture across South Tees, through effective leadership, strategy and governance

The current status is assessed as Level 2 for our **needs assessment** (we have determined our research "missions", based on shared understanding of local needs and health determinants), and Level 1 for **building knowledge into practice** (some examples of research being implemented into practice, but limited application to policy and/or scalable programme change). We will establish a **cross-organisational research portfolio** consistent with our mission-led approach and local needs assessment. The research portfolio will be included within the research programme plan. This will create

our mature, sustainable position where our cross-organisational research strategy, plan and needs based research portfolio is in-place, with regular review and monitoring framework actively tracking impact at population level.

The development of our research culture will be further embedded in organisational processes through the development of a **research-employer value proposition** (including how we remunerate for research roles, development of research careers in the local authorities, recognition for research work undertaken) and embed a research-led values framework into formal performance reviews and appraisal framework. The organisational workforce development content will include capacity-building that underpins a value-based approach to research, based on the existing organisational values framework, leading to our mature status where value-based research behaviours are actively informing personal development plans and appraisals across key directorates.

In addition, all contributing LA directorates have identified a **senior-level research ambassador**, who will have embedded the research review process into their directorate level planning and performance cycle, and actively contribute to the emerging research programme plan and strategy. In addition, we will align governance and review processes to corporate planning and performance cycles, ensuring representation from research teams at senior-level meetings and partnerships, including the Health and Wellbeing Board.

We will also develop an approach to involve **Cabinet Members and Councillors** in research to deliver a step change in the way in which evidence of health and wellbeing need and what works to improve health and wellbeing are taken together to shape council decision making. **We want evidence to be a core pillar in our Council decision making, alongside democratic and financial considerations**. It's acknowledged that we need to go beyond approaches such as "champions" – as there is limited evidence of their effectiveness in system change as highlighted by the review commissioned by our exclusive bid partner the What Works Centre for Wellbeing. In conjunction with the What Works Network, we will co-produce our approach to developing our Cabinet Members and Councillors in South Tees. This will need to be iterative and appreciate that Local Council elections will be held in May 2023.

A.3 To develop a global dissemination strategy to support evidence-base development and wider replication of our HDRC approach

We will identify key outcome areas for wider dissemination and learning opportunities, disseminate learning across wider organisations and create a **"knowledge into practice" toolkit** to support consistent and evidence-based practice.

A bespoke online **Portal** will be developed, maintained and hosted by TU over the five years of the contract and will continue post project. We will publish journal articles on our work and present at regional, national, and international conferences to share our learning, and learn from others. We will produce a yearly report of learning and publish on the Portal. We will also have a facility on the Portal for other local authorities to ask questions and discuss learning.

The portal will host several functions including: links to sites such as the What Works Centres, The Office for Health Improvement and Disparities, fingertips and the World Health Organisation; online research methods training and problem solving and links to more in-depth training including information on ethical approvals both at the TU and the LA level; links to other sources of research methods training; links to online modules on specific research methods (we have included funding for this); a repository of research carried out in South Tees areas in various formats including academic papers, PowerPoint, talking heads and reports, one-page executive summaries and infographics; facility to ask questions of other LA staff, stakeholders and academics in relation to research. Where ethics have been gained, raw data from research projects will be available for others to use. A research needs 'Bulletin Board' will include details on funding opportunities as well as ideas for research and opportunities for research projects with postgraduate students will be offered. A section for community members will be included that will facilitate ideas for research identified by members of the public.

B.1 To develop a multi-sector research partnership to increase scope and potential of our research to deliver real health impact and drive local research intensity

The current status of our **partnerships** is assessed as Level 2 (through the HDRC bid, we have created a cross-organisational collaborative around research, with commitment to align vision, aims and objectives to common research missions). We will further develop our partnership, including the development of a **cross-organisational research consortium agreement**, with early evidence of impact and long-term commitment to support a sustained research delivery model. This agreement will be progressed to include a clear partnership approach to research strategy, with a **formal 3-5 year commitment** in place across organisations to deliver and grow our research model. The cross-organisational research portfolio will be established in-line with our mission-led approach and local needs assessment, with the research portfolio included within the research programme plan.

The current status of our **strategy** is assessed as Level 1 (research projects do occur across the organisation, however they are not supported by a coherent plan or strategy). We will create a **cross-organisational research programme plan** and provide a monitoring and evaluation framework to ensure it is being implemented effectively and equitably. This will in turn support the development of a **cross-organisational 3 year research strategy** informed by the 2022/23 research plan and monitoring framework.

We will conduct a **health inequality needs assessment** and continually review to ensure the HDRC optimises opportunities to address inequalities and actively mitigates any unintended negative impacts from the approach.

B.2 To commission an independent evaluation of our HDRC to support the potential for place-based research partnerships

The current status of our approach to evaluation is assessed as Level 2 (some examples of research evaluation, but not consistently applied across organisational research projects). We will develop and implement a consistent approach to HDRC evaluation across organisations and a **Continuous Service Improvement Plan** as part of our research strategy and wider monitoring and review framework.

We will commission an external, independent process evaluation of our HDRC at the strategic, system level. This will essentially "record the journey" of our HDRC, observing what has and hasn't worked, the challenges/barriers encountered, and the solutions applied and whether we have met our success measures. We expect that this will take the form of ethnographical research. This will allow for iterative, internal reflection, and enable other local authorities to learn from our journey.

B.3 To create a 10-year research investment programme beyond our HDRC horizon to create sustained investment in research

The current status is assessed as Level 1 (research projects are funded or bid for largely at a directorate level). We will create the mechanisms to support cross-organisational bidding for research funding, aligned to research plan, leading to the creation of a cross-organisation 3-year research strategy, with aligned funding commitments and projections embedded within a medium term financial plan. Clear expectations on return on investment will be set out across the life course of the research strategy.

This will create our mature, sustainable position, with return on investment from research strategy starting to emerge, and more definitive projections on growth and ROI over the duration of the strategy.

C.1 To develop a cross-partnership Community-Based Research Programme to build inclusive and sustainable research capacity and use research as a tool to support community wealth building

Public involvement is imperative to the success of a HDRC. From a series of public involvement sessions held as part of both the initial feasibility study and in preparation for the submission of this bid, we are aware that members of the local community have a desire to contribute in finding answers to important local issues, but more fundamentally that this desire transcends involvement in the projects of others simply as participants and that there is a very real interest in knowledge generation at a community level that also involves the *ownership* of that knowledge generation itself. To realise this, community members must become valued members of research teams engaged in *actively co-producing* research rather than being *passively* consulted *about* it [27].

There are some good examples of community engagement currently, however these are largely within individual organisations, with limited examples of a cross-organisational approach. We will establish a **Community-based Research Programme** (CBRP) and a **consortium arrangement with VCSE** to

develop research associates and support the establishment of a **Community Research Group** to support the CBRP. The group will be overseen by the University governance arrangements and will develop a clear outcome and evaluation framework that will be embedded within wider governance arrangements and be supported by Health Watch Middlesbrough and Health Watch Redcar and Cleveland.

The HDRC will seek to create an **Epistemic Community**. Epistemic communities are ordinarily restricted to groups of professionals within narrow disciplinary circles [28]. This proposal will enable *all* stakeholders within the local community to contribute their expertise to the creation of an Epistemic Community that both builds on and enhances existing knowledge in the area in a way that is fundamentally place-based. Taking such an approach, beyond enhancing the quality and impact of research will also bring additional benefits such as generating learning and increasing social capital in the area, as well as creating routes to work and a valuable community resource and knowledge base [29] (see section 10).

The CBRP will appoint **20 x Community Research Associates** to form the **Community Research Group**. Members of this group will be co-ordinated and managed by VCSE groups (externally commissioned) and ultimately will feed into the responsibilities overseen by the university-based **Making Research Happen Manager**. Initially, these Community Research Associates will help to steer the foundations of the HDRC to ensure that communities are involved from the very beginning within conversations about the direction of the HDRC. As their role develops along with the HDRC itself, they will incorporate the identification of areas of investigation, design of research protocols and interpretation of data right through to modes of dissemination. In this way, the HDRC will allow community members to become valued members of research teams and not merely sounding boards or ticks in a box [27]. These roles will be competitively recruited to, but each with specific remits so that the overall group of 20 are representative of the South Tees population; we aim to appoint members from a wide variety of backgrounds and communities, and members making up the group should be from a wide range of ages, ethnicities, genders and areas within both Middlesbrough and Redcar & Cleveland. The Community Research Associate posts will be paid roles in line with the NIHR Centre for Engagement and Dissemination (CED) guidelines to ensure that individuals are both fairly remunerated and regarded as important parts of the HDRC [30].

Another feature of the Epistemic Community proposed is that sufficient weight and legitimacy be given to all stakeholders [31]. As such, it is imperative that the Community-Based Research Programme be independent and impactful in addition to being representative. Therefore, the CBRP will be co-ordinated by VCSE organisations that will offer support and guidance outside that which will also be available through the governance of the HDRC itself. This independence will also grow as the CBRP itself grows, and there is the aim for the CBRP to be able to design and deliver training in research as well as become responsible for identifying and applying for suitable funding opportunities as the group progresses, making it fundamentally *self-sufficient* as well as independent.

C.2 To build 'research literacy' in targeted communities through a 'routes to research' approach with schools, colleges and adult education

We will develop 'routes to research' approach across schools and adult education to support improved health literacy and develop a continuous and inclusive pipeline into health determinant research opportunities. In addition, we will create succession planning arrangements for longer-term capacity building arrangements, ensuring these support an inclusive and sustainable approach to research capacity building, including supporting routes into higher education and employment

C.3 To develop recruitment policies that create inclusive and diverse pipelines into research roles and support long-term career progression

As a research proposal centred around health determinants and inequalities, we propose to go beyond our current "Public Sector Equality Duty" and harness the collective potential of our research partnership to create a "mission-led approach" to research, based on the biggest health challenges for our area (see section 2); build research literacy in our school-based, further education and adult learning programmes (see section 4); Build Epistemic or "Expert Communities" across geographic, demographic and "lived experience" themes (see Objective C.1); build equality monitoring into our research maturity matrix (section 3). See also section 10.

2.3 Our Mission-led Approach

Central to our proposals is our "Mission-Led Approach"; by aligning our research ambitions to our **biggest strategic challenges**, we have a unique opportunity to create a strong research culture that places a high value on the role of research and development in achieving our organisational, place-based and system-level goals.

Our missions are informed by cross-organisational consultation and our original pilot work [16]. By capturing what matters to our key service partners, we have been able to define "missions" that are relevant and important to our major stakeholders. Our findings demonstrated a robust alignment with the Marmot [32, 33]policy areas, providing us with an opportunity to create mission of both local and national significance. Our missions have been outlined in the table below. In order to create a further 'strategic hook' that would support cross-sector interest in our approach, we have aligned each mission, to the missions identified within the recent 'Levelling-Up' white paper [34]. This will enable us to communicate our research strategy in a way that resonates across a range of agendas and strengthens our ability to attract inward investment through synchronicity with the research and development ambitions set out in the paper.

Table 2: HDRC missions and links with areas of interest and levelling-up mission [34]

HDRC Mission	Areas of Interest	Alignment with Levelling-Up missions
1. Create a sustainable and inclusive economy to maximise health and reduce inequalities	▪ Creating healthy people and thriving communities (including democratising planning and building co-production) ▪ Increasing productivity and shared prosperity (health proofing economic development) ▪ Creating healthy and sustainable places	Spread opportunities and improve public services, especially in places where they are weakest; Restore a sense of community, local pride and belonging, especially in those places where they have been lost Empower local leaders and communities, especially in those places lacking local agency
2. Give every child the best start in life	▪ Tackling the drivers of inequalities in development outcomes in the early years ▪ Poverty proofing children and young people pathways to minimise the impact of poverty on health, education and other areas. ▪ Understanding the relationship between early years funding and outcomes (impact of cuts)	Spread opportunities and improve public services, especially in places where they are weakest
3. Enable all children, young people and adults to maximise their capabilities and control over their lives	▪ Tackling the drivers of inequalities in education attainment across the life course ▪ Tackling the drivers of first time offending and recidivism ▪ Understanding and mitigating the causes of inequalities for care leavers ▪ Build research into the development of the Cleveland Violence Reduction Unit ▪ Understanding the key causes and mitigations driving homelessness, substance misuse and domestic abuse ▪ Building our understanding of the impact and local action to mitigate poverty ▪ To explore how digital solutions could reduce inequalities and support vulnerable adults & carers. ▪ Understanding the role of rehabilitation in maximising adults' independence.	Spread opportunities and improve public services, especially in places where they are weakest Restore a sense of community, local pride and belonging, especially in those places where they have been lost

3 Culture

Building an inclusive and sustainable research culture is a key objective in supporting our overarching vision and aims (objective A.2, section 2). Through our maturity matrix we have assessed our organisational maturity for supporting effective culture change and created a progressive 4-year plan to develop our **research eco-system**. Key milestones have been implemented within our implementation plan (see section 9) to support this, however in summary include:

- Investing in a dedicated **culture-change team** with a specific remit to deliver our eco-system maturity model embedded within our implementation plan;
- Developing **senior-level research advocates** across our respective organisations, with common principles for embedding research into practice and policy;
- Developing an ambitious **workforce strategy** to embed research across our organisation, supported by a shared values framework (see table 3 below);
- Developing a **cross-organisational research strategy**, supported by effective monitoring and a shared accountability and outcome framework;
- Creating **joint planning and long-term funding arrangements** to support a collaborative research culture beyond the HDRC;
- Building a bank of **community-researchers** and creating an inclusive research dissemination plan, in order to strengthen our public accountability for delivering and translating research into policy and practice.

Table 3: Shared Values Framework

Common Organisational Values	Shared Value Research Behaviours
Key: Middlesbrough Council Redcar and Cleveland Borough Council Teesside University	
Passionate and Focused Delivering Excellence Delivering our Best	We will commit to our shared research missions as a hook for embedding research in a way that delivers improved health outcomes for our communities
Collaborative Communities at our Heart Empowering Individuals	We will make communities our co-partners for research. We will proactively collaborate with our key partners in the shared interest of delivering our research missions and building sustainable research capacity
Creativity Bold and Ambitious Fostering Creativity	We will be innovative in our thinking, developing creative solutions to embed research and stimulate engagement
Integrity Collaborations Communicating Openly	We will be open and honest with our communication, acknowledging and learning when things don't go as expected, and passionately sharing with others when they do

Our **shared values** will drive the necessary behaviours for effectively embedding research. By aligning to our existing organisational value framework, we will ensure these values are routinely built-into performance reviews, organisational development opportunities, and wider organisational processes. This will reinforce our organisation commitment and create a research ethos that will support our eco-system and nurture additional opportunities for growth.

We believe our mission-led approach will keep us focused on tackling some of the biggest causes of poor health and inequalities, driving change through research, and increasing the value of research among statutory and non-statutory providers who have the power to implement into policy and practice. We will use our theory of change to create a culture focused on our long-term missions, demonstrating impact and outcomes through our performance and review processes, and continually reassessing our assumptions as part of an iterative review cycle.

Our maturity model is embedded within our implementation plan, with associated KPIs being reflected in our performance approach. Our proposed Culture Change team will play a key role in reporting and acting on successes and failures to continually develop our research ecosystem,

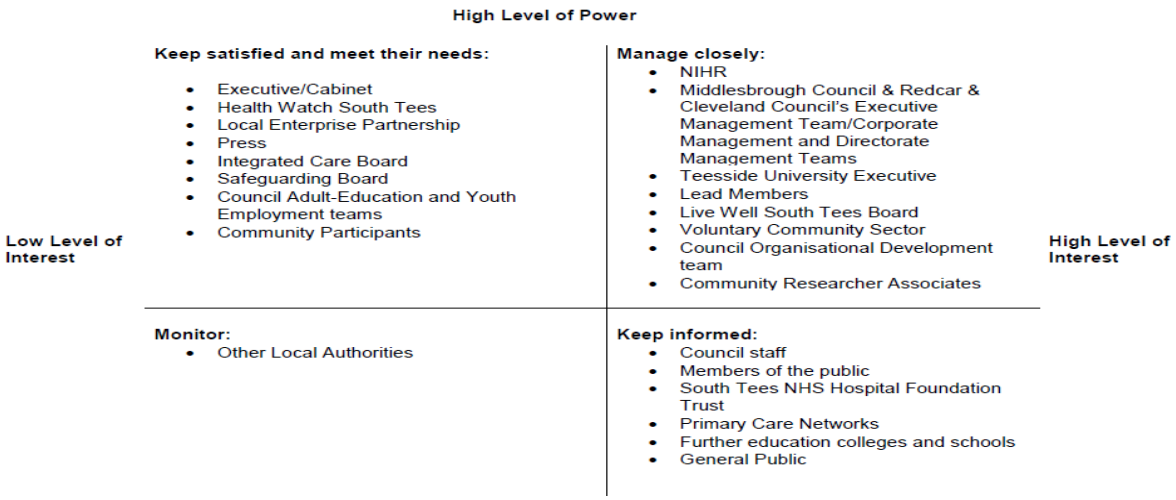
4 Collaborations

We will learn from positive local and regional examples of Partnerships that have generated real strategic change. One clear example is our Sport England Local Delivery Pilot ("You've Got This"); this has developed a strategic "Exchange" that has brought together partners who have never worked together on physical activity (e.g., Cleveland Police) to develop a whole systems approach. The Exchange has moved beyond a normal sterile Partnership to reflect the importance of distributed

leadership and the power of collaboration, and have developed a common purpose model [1]. Partners who attend the Exchange are physical activity “Ambassadors” and are challenged to tackle physical inactivity outside of the room whilst “Supporters” are those who can’t attend meetings but can enable change internally within their organisations and across the local system. This new language is based on a deeper sense of ownership, involvement, and action which is not reliant on individual goodwill, rather it is the organisations in the Exchange which outlive individuals who will invariably move on that are important to the change. These collaborations will strengthen the culture of research and evidence across the local system (not just within the LA). This reflects the approach identified in You’ve Got This where the development of Common Purpose has both encouraged and been supported by the strong emphasis on insight and learning [1]. Success will be the development of the vibrant, strategic research network encompassing all major local stakeholders which has clear aims and objectives that link with the HDRC and other important local work.

Our pilot work highlighted that collaboration and co-production will enable the HDRC both internally and externally. Public Health South Tees already has a MOU (see section 1) with TU and our HDRC bid has already instigated other departments of both LAs to look to establish MOUs and increase their research activity. Other Local Organisations such as Thirteen (Social Housing provider) and Tees Valley Combined Authority also have their own MOU with TU. As can be seen from our many letters of support, many organisations are keen to collaborate on the HDRC. However, these are all small and disparate agreements and pieces of work; there is a need for an overall structure to enable and develop research across the local system. To develop this structure, it is critical that key partners for collaboration are identified.

Through the development of this stage two proposal, the research functions in the local anchor institutions have been identified and bought into our vision of our HDRC. Over the five years, we will develop a vibrant, strategic research network – extending the HDRC research ecosystem to encompass all local partners. However, this work needs to move beyond links between individual researchers and policymakers based on personal relationships to a greater systemic connectivity across the local research and insight community [35]. We will use local experience of the “Exchange” to support the development of these relationships and associated commitment. To do this we conducted a stakeholder analysis, identifying our key stakeholders and approach to collaboration and stakeholder management. As part of the next phase, we will map our current and desired relationship across each stakeholder, identifying our approach to ensuring we meet their needs and facilitate active engagement, participation or support in delivering our research strategy.



We will undertake a strength-based approach to collaboration and communication, building on existing partnership approaches and agreements to mobilise effective stakeholder relationships quickly and establish a common purpose through a shared commitment to addressing poor health outcomes and inequalities through our mission-led approach. This will leverage those capabilities outlined in section 1, as well as build on new and existing mechanisms for creating effective and sustainable collaboration.

We have a number of existing platforms for collaboration and information sharing including partnership arrangements including; South Tees Health and Wellbeing Board, Public Health South Tees

Governance Board, Local Enterprise Partnership, Partnerships for Adults and Children and Fuse). In addition, we have a number of formal agreements which will be utilised in this process to build on collaboration, including a Section 101 agreement between Middlesbrough and Redcar & Cleveland Council, an MoU between both local authorities and Teesside University and a collaborative agreement with 5 out of our 6 Primary Care Networks to tackle neighbourhood inequalities and wider determinants of health.

To further strengthen our local approach to collaboration over the 5-year process we will establish new platforms including a South Tees Health Determinant Research Collaborative and formal agreements including a formal VSC consortium agreement, a MoU for school and college-based 'research literacy offer' through placements and educational support and a bespoke Employer-Led Programme to support new training/placement opportunities.

We propose to develop a compact with VCSE partners to support effective collaboration around the development of our Community-Based Participatory Research network, creating a scalable and sustainable approach to building effective community-based collaboration, making infrastructure investments where needed, to create a new role for our VCSE in supporting and contributing to our local research agenda, and supporting wider system and community-based dissemination of research.
We will work alongside our Adult Education departments to develop a bespoke employer-led programme to support effective capacity-building initiatives for communities who may be harder to engage, and build on our existing partnerships with our schools and further education colleges to improve research literacy and create 'active research placements' that support young people into further education and academic and public sector career opportunities.

How these collaborations will strengthen the sustained culture of research and evidence within the host LA has been set out through our developed maturity matrix. The maturity matrix sets out our current position in that we have created a cross-organisational collaboration around research with commitment to align vision aims and objectives to common research missions. Building on the current position a key milestone for year 2 is to have in place a cross-organisational research consortium agreement in place, with early evidence of impact and long-term commitment to support a sustained research delivery model. This will be built upon in year 3 with key milestones to develop a clear partnership approach to research, with a 3–5-year commitment in place across organisations to deliver and grow our research culture. We will use our existing Public Health South Tees Governance Board arrangements to oversee the collaborative development of our Transformational Route Map led by the actions in the maturity matrix ensuring a Council-wide approach is taken to increasing our organisational maturity for effective health determinant research.

To ensure active learning within and beyond the local authorities we will establish a cross-organisational, 'Health Determinant Research Collaborative', which will be led-by our research missions and proposed visions, aims and objectives. The collaborative will develop a shared accountability and performance framework to oversee the agreed KPIs working through Fuse (Centre for Translational Research for Public Health), to support regional dissemination of research and create opportunities for shared learning.

Our proposed local research system must not exist in isolation; it needs to link strategically with other relevant and important research infrastructure. We have formal links with regional infrastructure such as Fuse, the NIHR ARC North East and North Cumbria and the CRN North East and North Cumbria (including an Associate Lead for Public Health Research funded by the CRN). Nationally, we have the formal link to the What Works Network as an exclusive partner on our bid and links into the NIHR Policy Research Units (e.g. Behavioural Science). During stage two, we have also started conversations with Administrative Data Research UK regarding links between our HDRC and their work. Through our HDRC we will continue to develop these regional and national collaborations, including formalising them where appropriate. The progress of this work (and all the HDRC) will be mapped by our process evaluation partner (to be externally commissioned). This function will act as a witness and advisor on our progress, recording the journey of our HDRC including the barriers, challenges, enablers, and successes – creating a roadmap for effective dissemination and replication. Again, this is based on an effective mechanism built into You've Got This, which has added an additional layer of understanding

to that programme and further builds the learning and research culture by encouraging reflection, honesty and by placing value on failure as well as success.

5 Leadership and Staffing Structures

We will develop a **Knowledge and Innovation Hub**; a multi-disciplinary team integrated into South Tees and working across both local authorities (see attached organogram) and described below:

<table>
<tr><td colspan="2">Head of Knowledge and Innovation (1.00 FTE)</td></tr>
<tr><td>The “horizontal” resource (or core team) will also be responsible for managing our externally commissioned support functions (the process evaluation, resident involvement - the Community Based Research Programme and Community Researchers) and communications/marketing function).</td><td>The “vertical” resource for our three key directorates (Adult Social Care and Health Integration; Children’s and Families; Regeneration)

This mirrors our current corporate arrangements that seek to disseminate shared resource across the organisation, in a consistent, but directorate-focused way.</td></tr>
<tr><td>Making Research Happen Manager (1.00 FTE)
Data Governance Officer (0.50 FTE)
Administration Staff (1.40 FTE)</td><td>Making Research Happen Manager (1.00 FTE)
Making Research Happen Officers (3.00 FTE)</td></tr>
</table>

Our **Culture Change function** will be hosted centrally, consisting of 1.00 FTE Senior Culture Change Officer who will have a strategic South Tees remit and 2.00 FTE Culture Change Officers (one for each LA), to deliver and embed the change across the two authorities.

The team will be supported at TU by a Making Research Happen Manager (1.00 FTE); Professor Dorothy Newbury-Birch (0.20 FTE); Administration staff (0.50 FTE) and input from other members of TU staff for methodological or topic expertise.

The Hub will be further supported by: Externally commissioned functions for resident involvement, communications and marketing and our process evaluation; the What Works Network (exclusive partner on our proposal) and other consultants such as Professor Paul Cairney (University of Stirling). We have also added several non-costed co-applicants onto the bid who will work strategically on the work.

The Knowledge and Innovation Hub staff will be hosted by the Joint Public Health Directorate for both Middlesbrough and Redcar and Cleveland Council, which has associated section 101 arrangements [36] in place to support working across both local authorities. Our proposed staffing model has been structured to promote: high-level visibility and corporate culture change; cross-Council capacity building; research resource that is commensurate with our ambitions to scale-up our research intensity in a sustainable and inclusive way and effective cross-system partnerships and wider dissemination.

We have created a leadership post (Head of Knowledge and Innovation) within our research structure, with sufficient seniority to be represented within each Council’s cross-directorate management arrangements. The post-holder will therefore have the ability to support organisational culture change; build cross-directorate capacity; and ensure that the profile of the research team remains high within the organisation. Our proposed leadership arrangement will benefit from tripartite line-management arrangements across both Councils and the University through the Joint Director of Public Health and Professor Dorothy Newbury-Birch, at TU. This will ensure that our Head of Knowledge and Innovation is well-connected across our lead organisations and can work effectively and efficiently in delivering the key outcomes of the scheme. They will also be mentored by Professor Paul Baker, Director of R&D at South Tees Hospitals NHS Foundation Trust. Our Head of Knowledge and Innovation will host a lateral-research and development resource, split between the horizontal thread that will embed our approach across both LAs and the vertical thread focusing on our three focus Directorates (Children’s and Families, Adults Social Care and Regeneration). These Directorates hold responsibilities for the majority of the wider determinants in South Tees – for example, Children’s and Families provide the strategic leadership for education whilst Regeneration lead on planning policy and economic growth (along with our bid partner – Tees Valley Combined Authority). It is through these responsibilities that we will achieve improvements in population health.

The Making Research Happen Manager role will be four-fold, including: **Advocacy:** acting as 'Evidence Advocates' on behalf of each directorate; **Capacity Building:** Identifying training needs within each directorate to inform a cross-directorate workforce development strategy for research; **Planning and Coordination:** Determining the directorate research portfolio through active consultation with management teams; securing and coordinating resource; overseeing research projects and deliverables and **Monitoring and Communicating Impact.**

As part of our approach, we are keen to build an inclusive and sustainable workforce, Officers will therefore be offered developmental opportunities to progress into research management functions. This will ensure we have robust succession planning, but additionally create opportunities to bring on board individuals from less academic backgrounds. Our research team will benefit from matrixed support from both Council and TU departments, including research departments; research training, mentoring, finance; Programme Management Office, marketing and communications and information and communications technology). This creates an efficient staffing structure that additional creates opportunities for wider research dissemination (see attached logic model and organogram). Staff from the Hub will have honorary positions at TU which will enable them to use resources, including library and desk space. They will be mentored through Professor Newbury-Birch's research team and will be participants in the relevant Research Centres at the University. They will all be allocated a relevant academic to mentor them.

6 Resource, Capacity & Public Involvement

A detailed plan of public engagement throughout the life of the HDRC has been provided earlier in the document. Both LAs have strong Organisational Development Teams. Middlesbrough Council has recently refreshed the organisational values of Passion, Integrity, Creativity, Collaboration and Focus. Our HDRC contributes to and benefits from these values, including the Creativity sub-value to "use information and data effectively to make balanced judgements and decisions that are focused on solutions".

We have an existing MOU in place in relation to teaching and research between Public Health South Tees and TU. The pilot work for this current proposal (funded by NIHR PHR) has identified how to take this forward and include both South Tees LAs [9].

In common with other LAs [37] we have pockets of research advocates and research active staff. PHST Staff are formally involved with structures such as the Local Clinical Research Network (LCRN) and NIHR Public Health Intervention Responsive Studies Team - PHIRST (MA via the Fuse-led team). We also have one NIHR Pre-Doctoral Fellowship, a Research Co-ordinator post and mentoring for Public Health Specialty Registrars. Research is currently organised through one of the co-applicants (SL) who keeps a log of all research being carried out and ethical approvals needed.

Through our pilot work [3] and in preparation for this bid, we have engaged with a group of community participants and LA staff to move this forward, and they are all positive about it. We have extensive experience of carrying out research with members of the public through our work with TU. We will follow UK Standards *for* Public Involvement [38] as well as other guidelines from NIHR [39] and will link into South Tees and TU values framework (see earlier in proposal). Furthermore, it will establish and link to both institutions as anchor institutions.

Wider resource and capacity-building will include:

- **Building Research Capacity** will be delivered via workforce capacity building framework aligned to the attached maturity matrix. This will also be achieved through inclusive and sustainable engagement with research, ensuring representation from diverse groups.
- **Development of community-based research** comprised of Community-Based Research Group (CBRG) as well as wider public engagement and inclusion in research, thereby more effectively identifying local need and delivering positive change.
- **Dissemination** targeted through a co-produced dissemination plan to include those stakeholders who would benefit most from any research conducted, including communities, the North East Better Health and Work Awards, VCSE organisations and other audiences.
- **Maximising Capabilities** of the local population will also be factored into the HDRC. This will be introduced for instance, to help tackle inequalities of educational attainment by delivering sessions

in schools and further education institutions to build health and research literacy within the local area.
- **Reducing Inequalities** amongst specific populations and groups in line with previous work at TU and with additional programmes, such as by providing research training to help address youth unemployment by imparting valuable skills and competencies including our literacy training to enable people to be involved in research who are sometimes overlooked.

7 Governance and Management Structures

Public Health South Tees benefits from a shared service agreement (section 101 arrangement), that affords it the ability to work seamlessly across both Councils in discharging its functions in relation to public health, and, has existing Governance Board arrangements that includes cross-Council representation from: Adult Social Care; Children's Services; Public Health and Lead Members. It is therefore well-placed to host the research team and ensure that the Council-based governance arrangements for the research infrastructure proposal become embedded within existing section 101 arrangements.

As "Host Directorate", the Head of Knowledge and Innovation will become a formal member of the Public Health Directorate Management Team (DMT), which meets weekly and provides the leadership and governance of the Public Health directorate across both Councils. As Middlesbrough Council is host to the section 101 arrangement with Redcar [36], the research team will maintain compliance with Middlesbrough's corporate governance arrangements for: HR; risk management; and information governance and security. The wider governance arrangements are set out in the section 101 and can be relied upon to provide robust and established governance processes. The MOU between South Tees and TU will set out each party's intentions for working collaboratively in the interests of research and development opportunities. It is proposed that the research hub, will be varied into this agreement (and the associated monitoring/review arrangements), to support efficient mobilisation of the scheme and to support long-term sustainability of the programme, beyond the funding period.

Corporate visibility, the authority to influence policy and practice, and the ability to make key decisions efficiently, are all critical to the success of our proposed programme [40, 41]. As such, we have created a Head of Knowledge and Innovation post with sufficient seniority to be represented within the corporate leadership arrangements of both the LA's and Teesside University (Executive Management Team/Corporate Management Team/Executive Teesside University) on a routine basis to update on progress, impact and concerns which are highlighted at the South Tees Research and Innovation Hub Oversight Board which will be the strategic governance board for the HDRC.

In addition, the Head of Knowledge and Innovation will feed into each Directorate Management Team (DMT), through our existing (DMT) arrangements on a 6-weekly basis (weekly for the Joint Public Health DMT). Via our mission-led approach, we will be able to embed research into each Council's logic model for achieving strategic corporate outcomes, thus making our Head of Knowledge and Innovation a critical partner in supporting the strategic leadership functions of each directorate. Research will not therefore, be seen as an 'add-on' to the remit of the corporate leadership agenda, but an embedded part of it. Attendances at DMT will therefore be aligned to the directorate reviewing cycle for monitoring strategic and directorate-level milestones.

The Head of Knowledge and Innovation will hold weekly research 'huddles' with the wider research team to support effective communication and issue/risk management. More formally, the research team will have a monthly project board which feeds directly into the oversight board to:

- review progress against a defined performance framework;
- manage issues/risks;
- support team development;
- identify opportunities for cross-system/cross-directorate research collaboration
- produce feedback and highlight reports for the oversight board for dissemination across the wider governance structure

It is essential that the CBRP is viewed as a legitimate group whose findings and expert opinions *matter.* Because of this, there is a need to ensure that there is accountability to the group woven into the heart

of the HDRC. The HDRC core staff will work with the CBRP to develop governance arrangements including the CBRP being able to review and make recommendations to the HDRC though being integral members of both the project and oversight board. If the CBRP are not satisfied that appropriate action is being taken, there will be methods devised to allow for these to be escalated – for example, directly to funders. Some of the mechanisms and learning employed by Healthwatch will also be utilised in the development of the CBRP.

8 Justification of Costs

Our Knowledge and Innovation Hub staffing costs reflect the three overarching aims of our research and are supported by our high-level research objectives (see section 2.2):

- Culture change (Aim 1 and 2)
- Capacity building (Aim 1-3)
- Community based research (Aim 3)

These roles support effective implementation and oversight of our leadership and governance arrangements (as described in section 5 and 7) and support our ambitions to build significant research capacity within our communities (see section 6).

Our wider supporting roles are representative of our collaborative approach to community involvement, replicability and wider dissemination of our HDRC, and include proposals to fund senior representations from VCSE, a neighbouring LA and wider academia. This will also provide necessary challenge to our model, to support our iterative learning cycle.

The above is further supported by non-staffing costs related to our ambitions for large-scale dissemination and networking, community research development, VCSE consortium development and external evaluation. These costs additionally include innovative resources, such as: social listening activity, to explore new ways of communicating and monitoring the impact of our HDRC on local resident; and external support to stimulate key areas of organisational development (including culture change and political engagement).

Alongside our funded elements, we will develop a 10-year investment plan for research which will extend beyond the 5-year HDRC. This will be bolstered by our significant investment in culture change and organisational and community capacity building described in sections 3-6 of our business plan.

9 Implementation, Milestones, KPIs & stop/go criteria

'Our implementation plan identifies key actions linked to our HDRC aims and objectives (see Gantt chart). This has been informed by our maturity matrix, and supports an ambitious, but pragmatic route map toward a sustainable research infrastructure. Critical success factors have been identified below and these have been used to inform our stop/go criteria, which has been built into our monitoring and reviewing processes:

- Recruitment of research workforce and culture change team;
- Establishment of a cross-organisational research strategy and shared governance framework (including VCSE consortium agreement to support community-based research programme);
- Development of a 10-year health determinant research investment strategy.

The criteria are instrumental in developing critical capacity and leadership to develop our organisational maturity for research; ensuring we have sufficient cross-organisational commitment and buy-in; and, providing assurances that our successes will be sustained beyond the funding cycle of the programme. We have proposed periodic external evaluation of our programme, to support our learning and development, which will work alongside our internal governance arrangements to support proactive mitigation of risk and ensure we have robust processes for managing our stage boundaries effectively.

Table 4: Milestones for the objectives related to the HDRC

Year:	1	2	3	4	5
Health Inequality Needs Assessment complete					
Knowledge Hub staff and Culture Change Team in place and embedded					
Training and Workforce Needs Assessment complete and **Workforce Development Plan** agreed					
Plan to develop our Cabinet Members and Councillors in South Tees co-produced with the What Works Network completed					
Cross-organisational **Research Portfolio** consistent with our mission-led approach and local needs assessment established.					
Knowledge into Practice toolkit to support consistent and evidence-based practice completed and embedded					
Community-Based Research Programme launched; Recruitment to **Community Researcher** posts; **Training Protocol** co-produced;					
All priority groups to have a CBRP demographic appropriate group attached; ongoing mentoring and training; CBRP groups beginning to emerge as 'expert communities' with a proactive role in setting policy and research agenda in local area; CBRP becomes able to identify and support funding bids for additional research					
Research Portal developed and in place					
Cross-organisational **Research Consortium MoU** in place to support a sustained research delivery model.					
Formal 3–5-year **Research Consortium Commitment** in place across organisations to deliver and grow our research model					
Cross-organisational 3-year **Research Strategy** approved					
Continuous Service Improvement Plan implemented					
VCSE Consortium Agreement in place and CBRP infrastructure (with existing community groups) developed					
External, independent Process Evaluation commissioned					
Routes to Research approach across schools and adult education developed					

Table 5 Key KPIs of HDRC

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	TOTALS
N studies on CRN portfolio	1	1	2	3	4	11
N of visits to online portal	200	250	300	350	400	1500
Ethics applications through LA	4	4	6	6	8	28
N LA staff involved in research	10	20	20	20	20	90
N community members involved in research	100	125	150	175	250	800
% of community members involved in research from our 20% most deprived communities	25%	27.50%	30%	33%	36%	N/A
N of young people (aged 14-19) benefiting from 'research literacy' support	0	300	450	600	750	2100
N of adult learners benefiting from 'research literacy' support	0	25	50	100	200	375
% of community members moving into long-term employment or further education and training	0	5	12	25	50	75
No of VCSE organisations who are signatories to our CBRP consortium agreement	40	30	30	30	20	150
PhD students (LA staff) with TU	2	1	2	2	2	9
Masters student (TU) linked with South Tees	2	3	3	3	3	14
PhD students (TU) linked with South Tees (including professional doctorates)	2	2	2	2	2	10
N training modules taken by South Tees staff	6	10	10	12	12	50
Co-produced research reports	4	4	6	8	10	32
Co-produced journal articles	2	3	3	5	5	18
Funding (South Tees LA)	£30,000	£30,000	£30,000	£30,000	£30,000	£150,000
Funding (small - charity etc) (bidding)	£10,000	£10,000	£15,000	£20,000	£25,000	£80,000
Funding (CRN/NIHR ARC) bidding	£100,000	£110,000	£120,000	£130,000	£140,000	£600,000
Funding research councils (eg. NIHR/MRC) bidding	£5,000,000	£0	£700,000	£1,000,000	£1,500,000	£8,200,000
Total funding bids	£5,140,000	£150,000	£865,000	£1,180,000	£1,695,000	£9,030,000

10 Socioeconomic Position and Health Inequalities

As mentioned in Section 1 of the proposal, South Tees has high numbers of inequalities in relation to health and social care. As a public sector organisation, each Council and the University is bound by a "Public Sector Equality Duty", which is hardwired into all our major corporate policies and continues to be responsive to the government's equality strategy. As a proposal centred around health determinants and inequalities however, we propose to go beyond our current approach and harness the collective potential of our research partnership to:

- Create a "mission-led approach" to research, based on the biggest health challenges for our area (see section 2);
- Build research training into our HDRC which looks at different methods and ways of engaging with ALL individuals to ensure that everyone in society has the opportunity to be involved in research;
- Build research literacy in our school-based, further education and adult learning programmes. Supporting "routes to research" that create inclusive and sustainable approaches to research participation, engagement and career progression (see section 4);
- Build Epistemic or "Expert Communities" across geographic, demographic and "lived experience" themes. Creating opportunities for those with protected characteristics and/or socioeconomic vulnerabilities, to lead and develop research initiatives based on a Community-Based Participatory Research Approach;
- Build equality monitoring into our research maturity matrix, with clear ambitions to build inclusive and sustainable opportunities for tackling health inequalities as part of our transformation route map (section 3)

11 Dissemination, Outputs and Anticipated Impact

Communication drives the collaborations that lead to high quality research, translates research into actionable evidence, and persuades decision makers to maximise impact. The HDRC will support communication across organisational cultures, promote the use of accessible information and plain English, and identify opportunities for tailored outputs and translational activities. Our HDRC will have specific and specialised communications skills and resource allocated including a communications expert**.**

The Portal will be internally and externally available and will be a key resource in information exchange, providing a forum for communication, training, and publishing both academic and lay person appropriate articles. We will also use social media to highlight work. We will also use innovative methods such as storytelling, videos, photographs and 'interactive insights' as developed in our Sport England Local Delivery Pilot [1]. Information on impact is shown in Table 6.

Collaborators, partnerships and networks provide more channels of dissemination, and opportunities for knowledge exchange [42]. We will identify networks of specialists, practitioners, and communities of interest within and between LAs and through our governance groups to ensure shared learning.

11.1 What do you intend to produce?

Outputs from the HDRC will be varied. One of the primary things that the HDRC aims to produce is a culture in which research activity is fostered and grown across a variety of local agencies, including the community. Specific outputs that will be created will include writing for academic journals and relevant conferences. Reports for the funder and for the different agencies involved will have content specific content. We will also provide short one-page reviews as well using innovative ways to disseminate including talking heads, infographics and social media and phone technology. We intend to include the community members in all aspects of dissemination and everything we produce will be made available on our Portal. Furthermore, as part of the functions of the Portal we will include How to Guides relating to research methodologies and governance of research and how to interpret data. We will also develop a database of individuals and organisations to send regular research digest updates to with links to the Portal

11.2 How will you inform and engage elected members, LA staff and the wider population about the work of the HDRC?

Other methods that will be used to facilitate sharing outputs on a societal level will therefore be:

- **Multi-layered Dissemination:** it is imperative that any dissemination of activity by the HDRC and associated partners is inclusive and captures the imagination of the local population. As such, a

variety of dissemination methods will be produced in addition to the more traditional avenues described above. These methods will incorporate outputs such as infographic representation of research findings, 'talking head' testimonials from community members on their research involvement (as both participants and researchers).

- **Reports:** to maximise impact beyond the LA and university and deliver positive change in the local area, a range of reports will be generated as part of co-produced projects conducted by all stakeholders. These reports will be publicly available, where appropriate, via the dedicated HDRC portal and will include 1-page lay reviews of said reports.
- **Community-led Methodological Innovation:** all stakeholders can learn from the HDRC, and it should be recognised that this will not function in a linear or top-down fashion. From existing conversations with the public, it is anticipated that community members will make a significant contribution to innovative research methods as part of the knowledge-exchange between organisations.

11.3 How will your outputs enter society as a whole?

In addition to the engagement strategies detailed above, a number of ways to share HDRC outputs on a wider scale are:

- **Conference Presentations:** one way of increasing knowledge and visibility of the HDRCs progress and achievements will be through conferences, and co-produced presentations will be submitted in a variety of settings to do this.
- **Peer Reviewed Journal Articles:** We will include the journal articles as open-access in order to maximise engagement and dissemination
- **Dedicated Events:** to increase buy-in from wider audiences at the LA and TU.
- **Press Releases:** a dedicated communications officer post has been included as part of the HDRC staffing, and a key function of this post will be to devise and implement strategies for wider dissemination and visibility.
- **External Evaluation:** our externally commissioned process evaluation will "record the journey" of our HDRC, producing a roadmap for other areas to learn and copy/adapt from our approach.
- **Blog Articles:** sharing findings and best practice at a national level is vital. Existing relationships with national organisations such as the *Centre for Progressive Policy* will be built upon to realise this aim by publishing blog articles and similar.
- **Social Media:** a dedicated 'South Tees HDRC' Twitter account will be set up, which will share details of activity, news and events issuing from the HDRC.
- **NIHR Reports:** communication of HDRC activity and progress will also aid wider dissemination.

11.4 What other funding or support will be sought if this HDRC is successful (e.g. From NIHR, other Government departments, charity or industry)?

We intend to carry out legacy planning as part of the work. We would be looking to integrate staffing and services as much as is possible but will be looking for additional funding for core posts. TU will continue to maintain the Portal post five years. We will work with NIHR during the HDRC timeframe to make a detailed plan if this is shown to be successful.

11.5 What are the possible barriers for long-term impact?

We are confident that our logic model effectively supports the ability to deliver longer-term impact, but acknowledge that there are potential barriers to this, that stretch across the changing organisational environment (both internal and external) such as lag-fatigue, and failure to effectively measure or monitor proxy indicators of longer-term success.

To address these barriers, we will build-in effective governance that supports: risk management; stakeholder management; performance management and succession planning. These will be overseen by the South Tees Research and Innovation Hub Oversight Board. This will be facilitated by a culture of collaboration, transparency and reflective learning, which is supported through our proposed leadership, governance and accountability arrangements.

Risk Management: The HUB will be working in the context of a frequently changing organisational environment, in which the political, technological, economic, strategic and legislative landscape can change. Applying a robust risk management process to the HDRC will be necessary to avoid this impacting on immediate and longer-term benefits, and we propose to do this through a cross-

organisational risk management system called Pentana. This will enable all partners to have access to a shared, contemporaneous risk dashboard, and apply a collaborative approach to risk management.

Stakeholder Management: As would be anticipated from research into health determinants, a latency period between delivery and outcomes is to be expected. This can be problematic for securing and maintaining stakeholder buy-in - particularly political stakeholders - which can in-turn impact on investment, interest and support for the scheme. To address this, we will undertake a robust approach to stakeholder communication and engagement, ensuring we continue to meet their needs through-out the development.

Performance Management: We will identify proxy success measures that enable us to track progress of lag 'impact' indicators. We will create a culture of reflective learning to explore outcomes that were not anticipated or were not achieved. We will establish informal and formal mechanisms for supporting this, including action learning, performance reviews and highlight reporting.

Succession Planning: We will identify our proposed approach to succession planning within our collaborative agreement between partners. We will also ensure that terms around intellectual property, liabilities, indemnities, and legacy creation etc, are clearly stated upfront and reviewed annually. Whilst we acknowledge there is always a risk that we will be unable to sustain the programme beyond the 5 years of funding, we will proactively manage this risk through our risk management processes outlined above.

11.6 Project Timetable

We have attached a detailed Gantt for the HDRC onto NIHR Realms. Milestones are given in Table 4 and impact in Table 6.

11.7 What do you think the impact of your HDRC will be?

Table 6: Impact of HDRC

Impact Phase	Anticipated Impact	Timescale	Longer term consequence/impact
Short-term (first 1-2 years)	More residents actively engaged in research activity	By end of year 1	Improved social mobility and knowledge capital within communities, leading to reduced unemployment, increase in residents moving into further education and reduced community tensions
Medium-term (2-5 years)	Increased job/role diversity within each Council, attracting new talent and creating new opportunities	By end of year 2	Improved staff morale and better able to harness the Council's anchor role to support inclusive and sustainable economic development
	Research is embedded within the following policies/decision-making mechanisms: Planning & regeneration; Organisational development; Place-based commissioning and procurement	By end year 3	More inclusive and sustainable economic development across South Tees. Improved staff morale and performance. More cost effective and high-quality commissioning, leading to better resident outcomes. More collaborative research approaches across paid/provided public services, leading to scaled-up innovation in practice.
	Service improvements are observed across major areas of public health, social care and regeneration	By end of year 3	Improved health outcomes and reduced inequalities. Significant financial savings to the Councils.
Longer-term (5+ years)	Significant increase in area investment for research	By end of year 5	Improved inward investment and economic development for South Tees.
	Improved trust between the Council and residents	By end of year 5	Increased social capital, supporting stronger and healthier communities and more effective policy making.
	Increased research labour market across Tees Valley as a result of increased research intensity	By end of year 10	Reduced disparities in health because of improved economic opportunities.

12 Approach to Collaborative Working

Whilst many view academics and practitioners as coming from different worlds, in actuality the boundaries are blurred [43]. It has been proposed that a **co-production approach** involving academics and practitioners working together will result in services that better translate into real world practice and are more meaningful to those who will engage with them [44]. However, developing structural approaches takes time and requires persistence from both academics and policymakers, which can be challenging given the short time span of policy cycles and lack of institutional incentives within academia [45, 46]. There are many different names for co-production research [47] such as knowledge translation [48] participatory action research [49], and collaborative research [50]. A recent review of the literature identified that there is diversity in the approaches to co-production and that four requirements were

needed for more coproduction research (1) the capacity to implement co-produced interventions, (2) the skill set needed for co-production, (3) multiple levels of engagement and negotiation, and (4) funding and institutional arrangements for meaningful co-production. Themes for future research on co-production included (1) who to involve in co-production and how, (2) evaluating outcomes of co-production, (3) the language and practice of co-production, (4) documenting costs and challenges, and (5) vital components or best practice for co-production are recorded. To support co-production of research, changes to entrenched academic and scientific practices are needed [51]. Despite this, most coproduction activities adhere to similar principles, where the creation, exchange, synthesis, and dissemination of knowledge between researchers, policy makers, practitioners and end users is key [52]. As a civic university, it is important for TU to work with local partners in the area. Part of the TU mission is to generate and apply knowledge that contributes to the economic, social and cultural success of students, partners and the communities it serves. The University has in place a Corporate Social Responsibility Framework which captures a commitment to service, which they deliver through working in partnership with individuals, communities and civic organisations to address the needs and aspirations of local communities in the Tees Valley [53].

Professor Chris Whitty observes, “research is of no use unless it gets to the people who need to use it”. Policy makers and practitioners have a good understanding of local need, which is enhanced with a range of data and evidence sources through documents like the Joint Strategic Needs Assessment. But there remains a gap between research and practice [25]. Effective collaboration with academics and stakeholders internally and externally will help identify the barriers and facilitators to the implementation of evidence-based policy and practice to meet local need [13, 21]. We recognise that developing a coordinated approach to policy and practice takes time and requires persistence from both academics and policymakers [45].

The proposed HDRC will both capitalise on existing collaborative functions across organisations in addition to creating new structures to facilitate co-produced and coactive working across the region. These structures will include both partnership arrangements and formal agreements to ensure that collaboration between stakeholders is embedded at a foundational level within the HDRC. We will establish a cross-organisational, ‘Health Determinant Research Collaborative’, which will be led by our research missions and proposed visions, aims and objectives. The collaborative will develop a shared accountability and performance framework to oversee the agreed KPIs working through Fuse (Centre for Translational Research for Public Health), to support regional dissemination of research and create opportunities for both shared and active learning. Furthermore, joint working amongst the LA, TU and VCSE organisations will be used to support the integration of the Community-Based Research Group into the HDRC collective. We propose to develop a protocol with VCSE partners to support effective collaboration around the development of our Community-Based Participatory Research network, creating a scalable and sustainable approach to building effective community-based collaboration. By building on existing assets alongside wider development opportunities, we will be able to embed our collaborative approach within existing arrangements to support a sustainable, system-wide approach to research, that is aligned to the needs of our stakeholders.

13 Safeguarding and Ethics

NIHR guidance such as the NIHR *Research Funding Good Practice Guide* [54] and *Policy on Preventing Harm in Research* [55] will be used to inform best practice regarding safeguarding and ethical conduct. In addition, any proposed research involving the HDRC will be subject to TU ethical approval and approval from relevant LA bodies.

14 Expertise

We have brought together a team of 42 co-applicants to steer this work and ensure that the HDRC is embedded into the culture of South Tees and outwith the Councils. We have made these people co-applicants as, as such, it gives ownership to those involved which is important to the success of the HDRC. Mr. Mark Adams will be the lead person within South Tees LAs with Professor Dorothy Newbury-Birch the lead academic at TU. They bring a wealth of experience of the two sectors. The co-applicants bring together expertise in: Public health expertise (MA, RS, LJ, SL, LC, DNB, AD); South Tees Strategic change expertise (MA, DNB, NV, PC, JB, SF, BF, KF-H, ES, RH, LB, PR, SB, MF); Regional strategic change expertise (GB, JM, EK, PC, SL); Cabinet Members and Councillors expertise (MA, ES, AB); Service improvement expertise (SC, SJ, KF-H): Regeneration and planning expertise (RH, RW, TC);

Children and family expertise (ES, LB, KB, VW, DP); Adult services expertise (ES, LB, PR, VW, DP); Academic methodological expertise (DNB, AD, JE, LN, JR, SC, JW, DP): Co-production research (MA, RS, SL, DNB, AD, NV); PPI expertise (AD, DNB, SC, MF, SH, MM) as well as expertise from the education section (SH) and the medical setting (TG, EK).

Staff costs are detailed in the justification of costs and in the detailed costs provided on the online form. Line management and supervision arrangements for junior staff are shown in the organogram. For the costed staff they will have line management from the LA and support and mentoring in relation to research from Teesside University (through Professor Newbury-Birch and the team there). All staff involved in the HDRC will have honorary positions at the University enabling them to access services and training (including library services) as well as desk space in Professor Newbury-Birch's team. The Making Research Happen from the University (Dr Andrew Divers) and the admin staff member will be line managed by Professor Newbury-Birch at the University but will be given desk space and support and mentoring from the LA when needed. The work and training needed for all costed staff at the LAs and the University will be fed into annual reviews so that appropriate training can be given.

As can be seen by our letters of support we have worked with a number of partners relevant to the success of the HDRC – these meetings have helped shape the work that we suggest, primarily in relation to culture change. As can be seen in our changes from stage one document we have included staffing in relation to cultural and strategic change. We have carried out around 100 meetings and conversations with organisations and relevant people between Stage 1 and Stage 2. We have also carried out nine meetings with around 60 members of the public which has shaped our community involvement.

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Version Number	Date	Amendments
1.0		**n/a**

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