BRADFORD HEALTH DETERMINANTS RESEARCH COLLABORATION

Plain English summary
Poor health and many chronic conditions such as diabetes and obesity, and inequalities in these are determined by our environments such as the houses and flats we live in, the design of our roads and high streets, our green spaces, pollution levels, learning opportunities and the jobs available to us. Local authorities can play an important role in improving these environments and wider determinants of our health, as they can influence them through their services. In order to be able to do this, local authorities need to be able to choose and use research evidence, generate evidence where there are gaps in knowledge, and evaluate what they do and how they do it. This means being research active, but generally local authorities are not engaged in research. They lack formal research resources, infrastructure and an evidence culture, and remain largely disconnected from NIHR research support.

The City of Bradford Metropolitan District Council (CBMDC) is the 5th largest metropolitan council in England serving a multi-ethnic population with high levels of poverty and poor health. CBMDC is well connected to many of the successful research projects taking place in Bradford but so far this has been as a willing partner supporting when approached by others, rather than creating and using research independently. To move beyond this supportive role and become a prime user and generator of research we need a well-developed research system that provides high quality linked data, and supports the use and generation of locally led research to inform our services and make the best use of our limited resources.

We propose a HDRC for Bradford that will unite academic partners, communities and local agencies to develop the infrastructure and culture needed for CBMDC to become research active. The HDRC will sit in the CBMDC Chief Executives department and will focus on four functions:

- Reviews of evidence
- Data management and decision support
- Building research capacity
- Research Management and Governance

We will develop innovative methods in building trust and engagement with diverse communities so that priorities are relevant to communities, and they can shape research design and promote a receptive culture for research findings. These approaches include public involvement panels, citizen's juries, community soft intelligence data gathering exercises, community readiness methods and Asset Based Community Development. Our HDRC will develop and implement an ambitious city-wide co-production approach that introduces communities, the voluntary sector and our elected members to the design, methods and translation of research.

We will measure our success using a typology tool that we have developed to estimate local authority research activity. This measures things like establishing a HDRC team, building research skills and capacity, and use of evidence in decision making. Over time we hope that success will include local improvements in the wider determinants that affect our health and less inequality in these determinants and population health in Bradford.

We will share our learning and experience locally, regionally and nationally through our extensive networks including the Local Government Association. This will lead to a step change in the research activity of BMDC over the coming years and stimulate similar developments around the country.

RESEARCH PLAN

Background and context
Building research capacity where it is most needed: City of Bradford Metropolitan District Council (CBMDC) is the 5th largest metropolitan council in England. It serves the UK's youngest city and a diverse area both in terms of population and geography. Bradford has high levels of deprivation and poor health, a quarter of children grow up in poverty and the city has some of the lowest rates of healthy life expectancy. Despite poor health and disadvantage, paradoxically Bradford had until recently negligible health research. In 2006 the Bradford Institute for Health Research (BIHR) was established to address this. BIHR adopted a partnership approach that included CBMDC, three NHS trusts, CCGs and the Universities of Bradford, Leeds and York. It has now built a thriving research collaboration that hosts major NIHR national research centres (including the NIHR Applied Research Collaboration (ARC) and UKPRP ActEarly) and has engaged 50,000 Bradford citizens in the **Born in Bradford** (BiB) cohorts.

CBMDC has been a key collaborator in this success as a supportive and responsive partner. We have established a **Director of Research** to provide scientific advice to our integrated system CEOs, and during the COVID-19 pandemic alongside BIHR, we established the award-winning **COVID Scientific Advisory Group** (CSAG) to advise Bradford's District Gold Command. With NIHR support for 'unlocking data' we have started to scope secure, whole system data linkage for health, education, social care, crime and housing for our population**.** We have engaged with national government through research investment from the Department for Education (DfE) and the Department for Levelling up, Housing and Communities. **Our success reflects**: a clear and shared vision, deep community engagement; committed academic partnerships; and a whole systems approach.

However, so far our engagement has mainly been responsive – supporting when approached by others, rather than creating and using research independently**. We lack the resources and infrastructure to choose, use and generate research and this remains a fundamental limitation to us conducting locally-based population research aimed at reducing inequalities in health.** HDRC funding provides a crucial opportunity for us to deliver a shift change in our culture, infrastructure, funding and activity so that we can become a prime user and generator of research.

Towards a research-active local authority: In 2019, our NIHR funded local authority research system (LARS) project explored the barriers to developing a local government research system. This included developing and testing a typology of local authority research activity and developing a research system model framework. **CBMDC was ranked as Level 2 on our typology** (Attachment 1a) demonstrating some use of research in decision making in some areas of the organisation, but less likely to create or use research independently. The HDRC call is a timely opportunity to support CBMDC progress towards Level 4 and put research at the heart of local government.

Project Plan: our approach to developing an HDRC

Aims and objectives
The Bradford HDRC will create a research-ready and data-driven platform to stimulate collaborative health determinants research to improve services and outcomes, and reduce inequalities. The HDRC will:

1. Support locally relevant health determinants research, to advance knowledge and evidence-informed action in strategically important areas of local government.
2. Create sustainable infrastructure for developing and delivering research including access to evidence, finance support, ethics approval pathways, and research governance.

3. Incorporate research as a routine part of the policy making process built on a co-designed research agenda informed by engagement with elected members and the public to choose and use research findings.
4. Unite broad interdisciplinary expertise from collaborating research institutions including epidemiology, economics, urban design, transport, education, housing, arts and culture, social justice and welfare.
5. Develop and consolidate the use of methods for health determinants research, in particular novel methods for evaluation that meet the timescales and evidence needed in local government including equity impact and value for money.
6. To provide efficient system-wide platforms linking health, educational, social and economic data.
7. Build health determinants researcher *and* research user capacity in local government and HEIs.

Theoretically-informed model of our HDRC

Our LARS project included a rapid review of published local research system models which found 9 distinct model types. We have adapted the most appropriate model (the Local Authority Champions of Research (LACoR) Logic Model) which is underpinned by a systems thinking approach which aligns well with our LARS findings[3] and ActEarly.

Our adapted logic model captures the inputs and outputs and the local context of research activity and networks, incorporating the components of our typology. It is deliberately concise, as we found that people would like to see simple messaging and processes for research.

Structure and resources

HDRC resource will support the delivery of our model which will be embedded within senior CBMDC systems and will provide four functions led by the HDRC Director (CBMDC CEO) and coordinated by a HDRC Delivery Team based with the CBMDC Policy and Performance Team in the Chief Executive's department:

1) **Evidence Synthesis**. Work with HEI partners to provide rapid reviews of the literature and accessible evidence briefings for elected members and policy makers. **We include costs for rapid reviews which will be commissioned from the York Health Economics Consortium at the University of York, and for a library and information services manager to develop access to existing research.**
2) **Data and modelling**. Support whole system linked data across NHS and local government for epidemiology, economic modelling, decision support and evaluation. **We include costs for HDRC data management and data analyst capacity to align with our existing data infrastructure.**
3) **Capacity building**. Train staff in research methods and support fellowship applications. **We include costs for staff training including identifying, critiquing and summarising evidence, generating and designing research questions, basic qualitative and quantitative methods and analyses, and translation of research into policy. This training will be provided face to face and online by NatCen and facilitated by a HDRC training and development lead.** We will engage with wider NIHR services and our academic co-investigators and partner academic organisations will support CBMDC fellowship applicants.
4) **Research Management and Governance**. Establish research governance, finance, IT and management systems. **We include costs for a HDRC manager, a HDRC finance officer and HDRC administration support.**

The **HDRC delivery** team will be responsible for engaging with communities and decision makers to understand intelligence needs, identify evidence and data requirements and coordinate research support. **We include costs for a local and regional partnerships lead, and support for knowledge sharing and dissemination.**

Our approach to tackling wider determinants of health and inequalities
Areas with high levels of deprivation such as Bradford tend to have: poorer levels of child development, school readiness and educational attainment, poor performing schools and higher school exclusion rates, high levels of obesity, higher risk behaviours, poor quality, overcrowded and noisy housing, busy, polluted roads with low walkability, poor quality green spaces for play and exercise, high fast food outlet density and food deserts, higher levels of crime and lower entry into further education, training or employment. These wider determinants damage health across the lifecourse, promote clustering of unhealthy behaviours, impair life opportunities and increase longer term ill-health. Addressing them can improve health outcomes, but public health interventions often seek to directly influence behaviour rather than addressing the conditions that drive behaviours. Vulnerability to ill-health has been attributed to bad choices rather than framed as the product of complex systems.[8] There is robust research on how upstream factors affect health risk but little around how to address these at a local level. There is also poor linkage between academics and the statutory, voluntary, cultural and commercial sectors, despite them all having a role in improving public health. The Bradford HDRC will start solving these issues applying systems thinking principles to examine poor and unequal health "as outcomes of a multitude of inter-dependent elements within a connected whole".

We will build on the way our ActEarly Consortium has worked with communities and agencies to **identify local needs and priorities for research** around several strategic inter-disciplinary themes which align with CBMDC priorities:

Healthy Places - understanding how changes in the built and natural environments make neighbourhoods safer, less polluted and more attractive supports healthier lifestyles.

Healthy Learning - improving pre-school and school environments to nurture health and wellbeing.

Healthy Livelihoods - developing and evaluating approaches to address wellbeing and opportunities through increasing income, skills and control over community resources.

Housing, **Food** and **Physical Activity** - understanding how to improve how and where our communities live.

Management and governance
The HDRC Executive Group will be chaired by the HDRC Director (CBMDC Chief Executive) and include members of the CBMDC Senior Leadership Team, senior leads from each directorate, elected members, community representatives and academic partner representatives (Attachment 1b). It will meet monthly and be responsible for the development and delivery of the HDRC. It will monitor progress, activity, knowledge transfer and impacts by timescales and budgets and report to the Health and Wellbeing Board and HDRC Independent Steering Group. For *research governance* the HDRC team will join the wider Bradford District and Craven Integrated Care Partnership and benefit from shared services in management, feasibility assessments, contracts and performance monitoring. Ethics review will be provided by the University of Bradford.

Barriers
Barriers to the development of a local research system identified through our LARS study were grouped into four main themes: leadership and the need for commitment from political leadership and elected members; resource and capacity including the lack of resource to support the development of infrastructure as well as the development of staff research knowledge and skills; culture which highlighted the different understanding and research language used and valued in local government compared with for example the NHS and health environments; and local partnerships including both service delivery partners and research partners.

Building the HDRC at scale and speed will be less of challenge because of the proven partnership with BIHR. Our UKRI-funded research collaborations provide momentum and our proven partnership with local

and national universities will provide rapid access to expert supervision and support as well as mechanisms for gaining ethics approval. This strong foundation will support a good return of investment from HDRC funding.

Success measures

We will use our LARS typology to monitor progress to achieve Level 4. Measures will include building the structure (e.g. establish team, data linkage, governance, training), process (e.g. evidence-informed policy cycle, grant and fellowship applications) and outputs (evidence informed policies and services, embedded evaluation, knowledge generation and sharing). Short term outcomes will include measures of research activity such as use of evidence in decision making, uptake of research training and external funding success, and in the longer term we will measure impacts on local improvements in health determinants and reductions in inequalities. Impact case studies will also capture examples of good practice of how research has influenced policy and practice.

Community engagement

Researchers, partner organisations and members of the public collaborating to tackle health and social issues leads to improved levels of acceptability and the development of programmes appropriate to the community's level of readine Public engagement with public health and prevention research is somewhat different to public engagement in clinical research and requires a general public or sometimes a specific community perspective. Our elected members are our community representatives and will drive our HDRC community engagement. In addition, through our work with BIHR and participation in BiB and ActEarly, CBMDC has been learning how to develop innovative methods in building trust and engagement with diverse communities so that priorities are relevant to communities, and they can shape research design and promote a receptive culture for research findings. These approaches include public involvement panels, citizen's juries, community soft intelligence data gathering exercises, community readiness methods and Asset Based Community Development. Our HDRC will build on these strengths to develop and implement an ambitious city-wide Co-production and Citizen Science strategy that hardwires communities, voluntary sector and elected members into the design, methods and translation of research.

Collaborations and partnerships

There are a number of key collaborations and partnerships that will be central for the HDRC:

1. **Higher Education Institutions.** We will harness academic expertise in wider determinants from several institutions. We have benefited from a committed network of inter-disciplinary academic support through BiB and ActEarly that includes experts in urban design, housing, transport, child development and education, spatial analysis, social science, criminal justice and arts and culture. Our BIHR co-applicants will support the HDRC delivery team in developing research prioritisation and co-production, and engaging local agencies in this. Our core university partners include the Universities of Bradford, Leeds and York who will support evidence syntheses, research methods and supervision.
2. Our wider national network includes UCL, University of Bristol and QMUL. **NIHR and UKRI infrastructure**. The co-location in Bradford of the NIHR ARC Y&H, UKPRP ActEarly Consortium, CRN Public Health regional and national public health leadership and Wellcome population health research investment will promote alignment of research funding infrastructure and develop a critical mass of expertise in health determinants research.
3. **Non-governmental partners** and the Office for Health Improvement and Disparities will be represented on our Independent Steering Group and will provide strong national networks to support dissemination. The Health Foundation will support policy implementation.
4. **West Yorkshire Combined Authority (WYCA)**. The Bradford HDRC will provide the learning hub for the network of Leeds and our other three local authorities represented in the WYCA area that covers 2.5 million people. We will establish a Community of Research with senior leaders from each of the five local authorities, to exchange learning and promote development, capacity building and establish common structures such as governance systems.

5. **Other key partners** include police, fire services and VCSE and industry partners who influence health determinants directly or indirectly as large scale employers, local procurers, transport users and influencers of policy and environments.

Leadership

There is strong political and organisational support for a Bradford HDRC which is critical to a successful research-active political organisation. An elected member is included as a co-applicant and the lead applicant is the Chief Executive for CBMDC and a co-investigator on two major £7M research awards – the UKPRP ActEarly programme and the Wellcome Age of Wonder – both focused on wider determinants of physical and mental health. The Director will be supported by a HDRC Senior Leadership Team and Executive, and we propose strong and independent oversight through our independent steering group. Our leadership will create a culture of choosing, using and generating research, as well as continuous exchange of science and evidence into mainstream policy - a key strength of this will be the integration of researchers with policymakers so that every senior decision-making board has a research lead to identify research priorities and support evidence-based policy.

Capacity building

We have already begun to identify research interests and skills in CBMDC which we will further develop to create a community of research. We will extend capacity through:

1. **Virtual research methods hub** to support local authority skills development, in particular literature reviews, novel methods for evaluation, linked data analysis and modelling. NatCen (the UK's leading social research institute with a long track record of working with local authorities) will provide training in qualitative and quantitative research methods, reviews and policy translation.
2. **Formal courses** in research methods offered by NatCen for staff across our HDRC network.
3. **Professional development** in our collaborating universities to inspire the next generation of researchers from wide disciplinary backgrounds to work with CBMDC. This will include contributions to curriculum content, supervision and mentorship, SPARC placements and honorary contracts.
4. **Fellowship applications** to the NIHR Academy local government PLAF and DLAF schemes will be supported to provide a sustainable pipeline of future CBMDC researchers and leaders.
5. **Supporting emerging talent and local young people** to become our future data analysts, social scientists and leaders.

Dissemination and knowledge exchange

The HDRC Director is a core member of all council senior decision-making committees and closely linked to our elected members to enable the identification of research priorities and provision of evidence. Our partner BIHR has a strong track record of effective engagement, communication and dissemination with our local communities built on its experience with BiB and ActEarly and we will develop a similar approach. Regionally, the HDRC Director will join the ICS Improvement and Innovation Board to build strong links with our NHS partners and five local authorities. Nationally, we have strong links and access to the NIHR and to policy makers and government departments including DHSC, MHCLG, DfE and the LGA. Our knowledge mobilization activities will be guided by evidence and will recognise the need to inform audiences which are not generally research active. We will work with our elected members and public partners to co-design clear, concise and accessible communications to ensure that our outputs are relevant, culturally sensitive and useful. We anticipate using a range of media including, tailored and targeted summary briefings, networking and engagement events, a strong on-line presence as well as mainstream and social media.

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