

**Early Assessment of Research Culture, Capacity, and Collaboration
in the Coventry Health Determinants Research Collaboration**

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Plain English Report Summary

Background

Our health is affected by many important factors in our daily life. For example, our job, how much we earn, the homes we live in, and our childhoods. Factors like these are called 'health determinants'. Councils play an important role in making decisions that affect health determinants, such as housing, jobs, parks, and schools.

To help councils make the right decisions, it is important that councils can use research and evidence about what works. At the moment, many local councils do not have everything they need to carry out and use research.

A new programme called **Health Determinants Research Collaborations (HDRCs)** was set up to support some local councils to be more involved in research. This programme is funded by the National Institute for Health and Care Research. HDRCs are where councils work with universities, communities, and other partners to support more research to happen. HDRCs want to help councils use more research and evidence when making decisions about the health determinants.

What is the Coventry Health Determinants Research Collaboration?

The Coventry Health Determinants Research Collaboration (HDRC) started in 2022 and will run for five years and maybe longer. Coventry HDRC is a collaboration that includes:

- Coventry City Council
- University of Warwick, Coventry University, and University College London Institute of Health Equity
- University Hospitals Coventry and Warwickshire NHS Trust
- Voluntary, community and social enterprise groups (VCSE)
- Members of the public

What is this study about?

It is important that we track our progress in the Coventry HDRC. This will help us understand what is changing because of the HDRC, and how we can improve. This study was to find out how Coventry City Council is involved in research at the start of the HDRC. We also wanted to understand how well the Coventry HDRC is working together, and how the HDRC could improve this. We plan to repeat this study later on, in year 3 and year 5, to track our progress.

What did this study do?

We prepared two online surveys. In one survey, we asked people working at Coventry City Council about how research is being carried out and used at the Council. We also asked Council staff about their own training, skills, and experience with research. In the second survey, we asked people working in the HDRC about how they felt the group were working together. For example, we asked members of the HDRC about communication, leadership, and respect in the HDRC. We analysed the findings from both surveys to know more about how things are working at this early stage. We then came up with recommendations for how the HDRC should develop.

What did the results tell us?

The results told us that people working at the Council have different levels of involvement, experience, and training with research. Most people thought that research could help the Council to understand issues and make decisions. Some people had a higher level of research experience. Most people working at the Council had not been involved in any research lately. People's answers to the survey suggested that having more support and procedures in place could help teams to carry out more research. These findings tell us that the HDRC could support more research to happen. For example, by making sure staff have opportunities for training about research, and by having the right procedures in place.

The results also told us that members of the HDRC are working together well. Members thought that the HDRC was a unique and new programme, and people in the HDRC respect each other. Members also said that it was difficult to find enough time to do and talk about all of the different areas of work that needs to be done.

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Full Report

Background

Across populations, there are substantial and unfair differences in health outcomes and life expectancy at local, national, and international levels (1–3). These health inequalities are driven by complex and interacting factors including illness, access to medical care, health behaviours, and important factors known as “health determinants” (4). Health determinants reflect economic and social contexts such as the physical environments and houses people live in, the quality and stability of employment, income levels and access to resources, and early years and social relationships (5,6). Several theoretical models have illustrated the overarching and critical influence of these wider socioeconomic, cultural, and environmental contexts in determining health outcomes (4,7,8).

In the United Kingdom (UK), local authorities, or councils, are responsible for delivering and commissioning services including education, housing, social care, public health, transport, cultural services, town planning, and more (9). These responsibilities map closely onto the health determinants, highlighting the significant role local authorities play in the health of their residents. In 2010, the Marmot Review established that health inequalities must be reduced via action on specified policy objectives to improve health determinants (e.g., to give every child the best start in life and to ensure a healthy standard of living for all) (1). Following this review, Coventry was the first city to designate itself a “Marmot City” in 2013. This designation reflected commitment by Coventry City Council and other public and voluntary sector partners to address health inequalities in the city (10). In 2020, an independent evaluation concluded that Coventry had performed well relative to national trends on several measures, however, in a context of reduced local authority budgets there was evidence of widened inequalities in some outcomes (2). The evaluation highlighted areas where increased collection and analysis of robust data and research would strengthen evaluation of Coventry’s progress as a Marmot city

(2). However, many local authorities do not currently have the infrastructure required to independently lead robust academic research programmes (11,12). Unlike higher education institutions and the NHS, many local authorities do not have research governance processes or ethics committees, a culture that enables capacity for research, nor sufficient access to resources including academic journals or research training (13–15).

Research funder, the National Institute for Health and Care Research (NIHR), recognised that to tackle the health determinants, local authorities must be better supported to implement evidence-based decision-making and conduct research and evaluation. Hence, Health Determinants Research Collaborations (HDRCs) were funded to enable some local authorities to build research infrastructure in collaboration with universities and other partner organisations (5).

Coventry was awarded a HDRC in 2022, hosted by Coventry City Council in collaboration with three higher education institutions, NHS trust, Voluntary, Community and Social Enterprise organisations (VCSE), and public co-applicants. Broadly, the Coventry HDRC aims to build research infrastructure and develop a culture of research at Coventry City Council. The vision is that by developing this culture and infrastructure, evidence regarding the health determinants can be obtained and implemented in decision-making to tackle health inequalities. Embedding meaningful public involvement throughout this process is a core element of the HDRC's vision.

There are five 'Pillars' within the Coventry HDRC working to 1) develop local authority research ethics and governance processes, 2) facilitate research-related training and skills programmes, 3) embed robust approaches and processes for public involvement in research, 4) evaluate the development, progress, and outcomes of the HDRC, and 5) promote knowledge mobilisation and wider impact of the HDRC. These pillars are supported by public contributors, a HDRC Voluntary Sector Reference Group, Management Committee, Executive Committee, Stakeholder Group, and Independent Steering Committee. Each input on the development and implementation of the HDRC and include representation from the public, VCSE organisations, public sector (e.g., local authority and NHS), and academic institutions.

Study Aims and Objectives

This study aimed to assess two key areas relevant to the HDRC: research culture and capacity at Coventry City Council, and collaboration in the HDRC team. The findings of the study aimed to inform the work of the HDRC and provide a baseline assessment that can be used to measure HDRC progress and impact.

Objectives were to:

- 1) Investigate research culture and capacity at Coventry City Council at an early stage of HDRC implementation, via a survey with Council employees.
- 2) Understand how well the collaboration is functioning via a survey with members of the HDRC.

These baseline surveys were not to assess perceptions of the HDRC among council staff and external partners, or the implementation of the HDRC. These areas will be explored through methods conducted later in the evaluation.

Methods

Study Design

The Coventry HDRC formally started Year 1 in October 2022. This study reports two baseline surveys that collected data between December 2023 and February 2024. Foundational activities, such as recruiting members to the HDRC team, continued throughout the following year, and substantial work to influence local authority research culture (e.g., formal training or governance process) had not been implemented before data collection. Both surveys will be repeated in HDRC year 3 (evaluation Phase 2) and HDRC year 5 (evaluation Phase 3) to facilitate comparison at the sample-level as HDRC implementation progresses and moves towards business as usual (Figure 1).

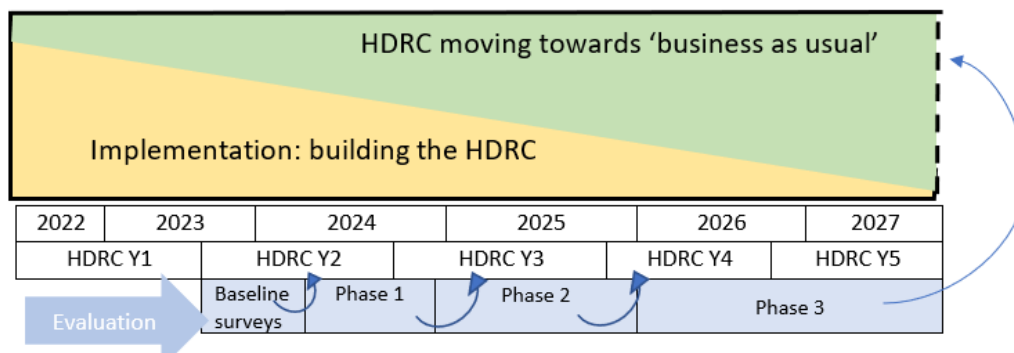


Figure 1. Planned phases of the Coventry Health Determinants Research Collaboration (HDRC) evaluation. Arrows represent implementation of learning.

During development of the surveys, research-validated measures were identified and supplemented with bespoke and free-text questions to further explore the study aims. Validated measures were chosen with involvement from two HDRC public contributors. The selected measures were deemed most appropriate and relevant to the aims and contexts of the HDRC and local authorities following review of several available tools. Ethical approval was obtained from the University of Warwick (BSREC 03.23-24). Participants of both surveys read study information, provided informed consent, and completed the questions online via Qualtrics software. A unique five-digit code was displayed to each participant to enable anonymous completion and study withdrawal if desired after completion.

Survey 1) Baseline Research Culture and Capacity in Coventry City Council

Participants

All employees at Coventry City Council were eligible to complete this survey. A Council Director invited participation via an all-staff email, and the survey was promoted on the intranet and TV screens across Council sites. Reminders were shared via news updates and word of mouth during data collection (December 2023 to February 2024). A supplementary method was adopted to increase recruitment of staff with senior roles. More specifically, individuals in the Extended Leadership Team were contacted directly to invite them to book time with a researcher, who could complete the survey with them.

Measures

After providing informed consent, participants first reported their role type and Council directorate. Participants then selected, from a list, any types of involvement in academic research in the last 12 months. The following criteria were provided to define academic research: i) produces new knowledge that can be used by others (i.e. not just the Council), ii) addresses clearly defined questions with systematic and rigorous research methods, iii) has ethical or other research governance approval, and iv) produces results that could be published in peer-reviewed academic journals.

Participants were also asked whether they had used academic research evidence to inform work in the last 12 months, how this evidence was found, and any critical appraisal undertaken.

The validated Research Capacity and Culture tool (RCC) investigated how academic research was facilitated and enabled by Coventry City Council, the participant's department, and the participant's own knowledge and skills (16). Items on each subscale were answered on a scale of 1 (*lowest skill or success level*) to 10 (*highest skill or success level*). In addition, items from one subscale of the Seeking, Engaging with and Evaluating Research (SEER) tool assessed value placed on using research from 1 (*not at all valuable*) to 5 (*very valuable*) (17).

Additional questions explored knowledge about infrastructure and governance to enable research at Coventry City Council, and awareness of organisations such as the NIHR Research Support Service and the Coventry HDRC. Participants reported about any previous research training and outstanding training needs, and finally completed further demographic questions that were optional to complete. Open-text questions were included throughout to request further detail. The survey was expected to take 20-30 minutes to complete.

Planned Analyses

Responses were analysed in SPSS to produce descriptive statistics. Where participants did not submit a completed survey, partial responses were retained for analysis and this was explained in the Participant Information Sheet. Other than to facilitate the use of survey logic or to align with scale validation (of RCC and SEER), questions were optional. The sample denominator therefore varies across questions and percentages account for the number of participants completing each question. T-tests were conducted to statistically compare research capacity between different subgroups. Qualitative extracts were chosen to illustrate descriptive results.

Survey 2) Reported Functioning of the Collaboration Among HDRC Members

Participants

Figure 2 illustrates the Coventry HDRC structure and governance at the time of data collection. Eligible participants were directly involved in the Coventry HDRC via work with the Pillars, Management Committee or Executive committee. VCSE collaborators were also eligible and received the survey. During the study, the structure of the HDRC changed and VCSE collaborators moved from working within Pillars to instead form a Voluntary Sector Reference Group. Eligible participants were invited to complete the survey via email, and verbally reminded in HDRC meetings during data collection (December 2023 to February 2024).

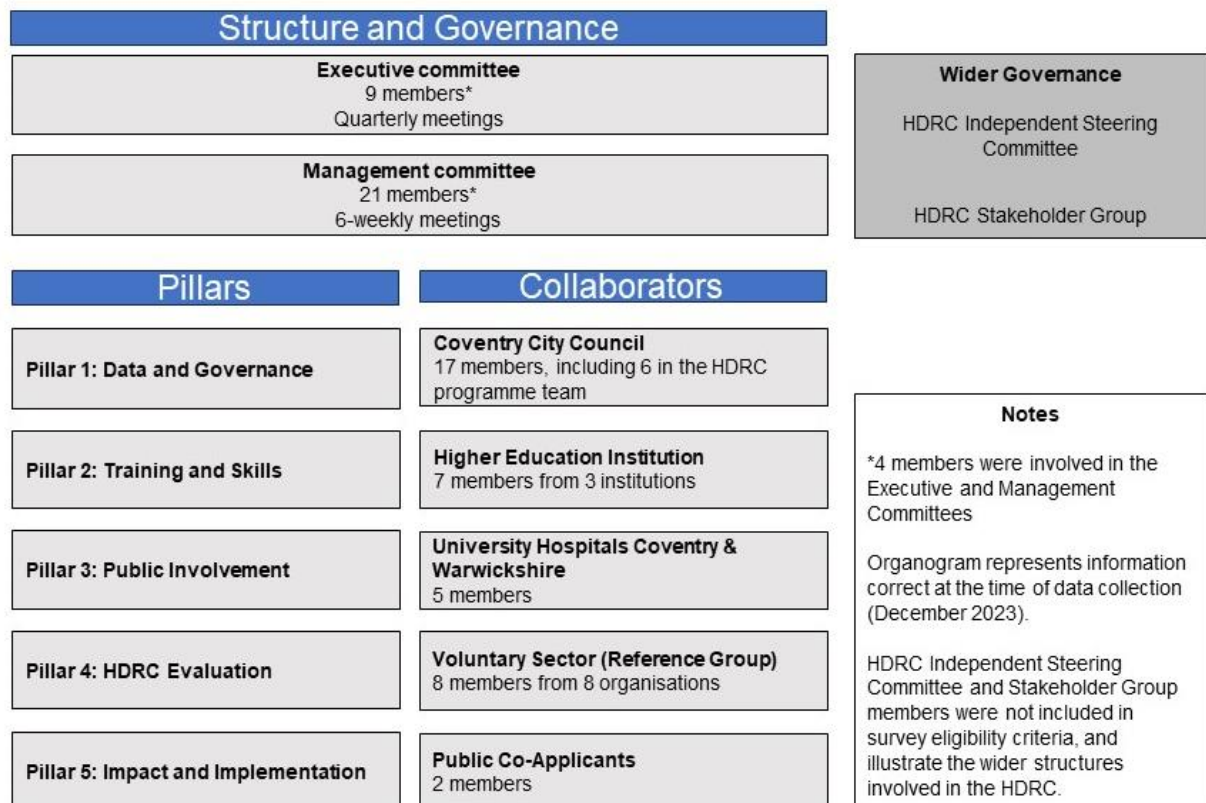


Figure 2. Coventry HDRC structure and governance during the study period. Eligible participants were members of the Management Committee and/or Executive Committee, and/or supported Pillar or Voluntary Sector work.

Measures

Participants first reported the type of organisation they are affiliated with (e.g., higher education institution, local authority, VCSE, NHS, or public contributor), and then which HDRC committee(s) they attend, and their length of involvement with the HDRC.

Functioning of the collaboration was investigated using the Wilder Collaboration Factors Inventory (18). Items are phrased positively, and responses are on a five-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Participants completed 44 items that are condensed into 22 factors during analysis.

Free-text questions invited participants to share more about how the collaboration is working or could be improved.

Planned Analyses

Responses to the inventory were analysed descriptively using means and standard deviations.

Qualitative responses were deductively coded into the Consolidated Framework for Implementation Research (CFIR) (19), a framework that will guide methods throughout the Coventry HDRC evaluation. CFIR is a framework designed to assist systematic assessment of the barriers and facilitators associated with implementation across five domains (innovation domain, outer setting, inner setting, individuals, and process), each containing numerous constructs.

Results

Survey 1) Baseline Research Culture and Capacity in Coventry City Council

Participants

A total of 335 individuals began the survey and provided both their role and directorate (around 7% of 4,800 Council employees). Among participants starting the survey, the largest subsamples by directorate were Education and Skills ($n = 58$, 17.3%), Children's Services ($n = 51$, 15.2%), and Adult Services ($n = 46$, 13.7%), consistent with the larger size of these directorates in the Council (Figure 3). Table A in Appendix 1 provides the numbers of participants starting and completing the survey in relation to CCC workforce figures and demographics. Directorates over-represented in the survey sample included Public Health, Insight & Migration (PHIM) and Education & Skills. Under-represented directorates included Streetscene & Regulatory Services and Adult Services. Whilst 69% of the workforce are female, 59% of participants were female. Survey participants were less ethnically diverse than the Council workforce. Representation of age groups was similar to workforce figures, except an under-representation of 55-64-year-olds. Participants starting the survey most often selected an Officer ($n = 112$, 33.4%) or Manager ($n = 71$, 21.2%) role (see Table B, Appendix 1)

Figure 4 shows the number of participants who progressed through sections of the survey. A completed response was submitted by 101 participants. Demographics were optional and, where figures do not total $n = 101$, reflect missing data or prefer not to say responses.

Participants who completed the survey had worked at the Council for over 10 years ($n = 50$, 50.5%), between 3 and 10 years ($n = 26$, 26.3%), and under three years ($n = 23$, 23.2%). Participants reported Grades 2 to 5 ($n = 26$, 27.1%), Grades 6 to 8 ($n = 43$, 44.8%), Grades 9 to 10 ($n = 13$, 13.5%), a senior (SM) Grade ($n = 7$, 7.3%), and Other ($n = 7$, 7.3%). Where education was specified, participants most often had a higher education ($n = 38$, 38.4%) or postgraduate degree ($n = 33$, 33.3%), and otherwise reported Secondary school ($n = 7$, 7.0%), Further Education ($n = 16$, 16.2%), or Other ($n = 5$, 5.0%). More participants were female ($n = 56$, 60.2%) than male ($n = 36$, 38.7%). Participants were aged under 34 years ($n = 16$, 17.2%), 35 to

54 years ($n = 57, 61.3\%$), or older than 55 years ($n = 20, 21.5\%$), and most often White British ($n = 78, 83.9\%$). Table C, Appendix 1 shows how age, gender, and ethnicity demographics correspond with available Council workforce figures.



Figure 3. Study participants starting the survey and workforce figures per Coventry City Council directorate. Other responses included the names of obsolete directorates or were ambiguous. Where specific teams were named, these have been counted under the relevant directorate. The directorate structure was correct at the time of data collection. Percentages are shown in Table A, Appendix 1.

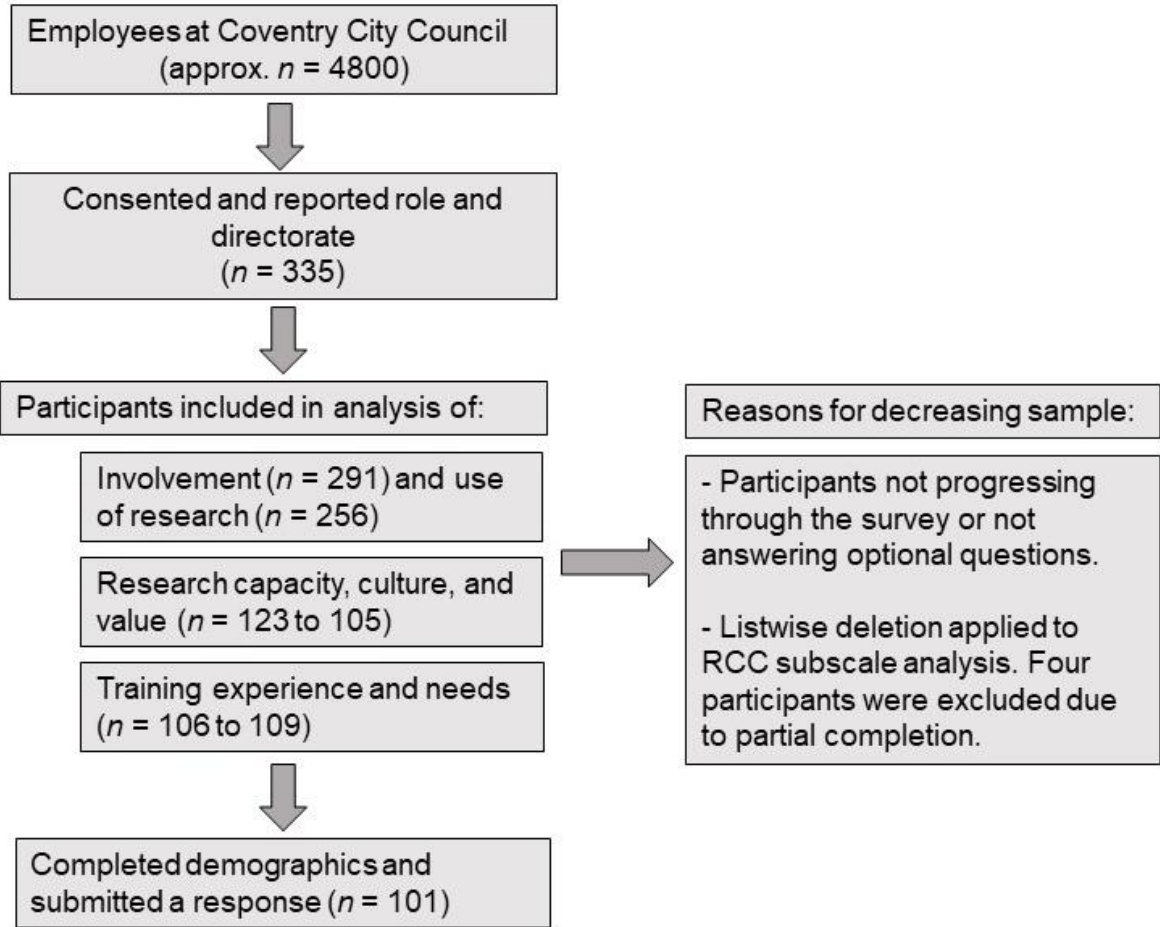


Figure 4. Number of eligible individuals and participants who progressed through different sections of the survey. Exact employee figures, which would have varied throughout data collection, were not available and so this figure is approximate. Other than to facilitate the use of survey logic or to align with scale validation, questions were optional and therefore denominators within each section vary. Partial survey completions were retained for analysis to minimise data waste, explained in the Participant Information Sheet.

Involvement and Use of Academic Research

Three quarters of 291 respondents reported no involvement in academic research activities in the past 12 months ($n = 223$, 76.6%). Of the 23.4% of participants who had been involved in at least one type of academic research activity, participants had most often attended forums to hear about academic research findings ($n = 37$), provided local knowledge to inform academic research ($n = 23$), or identified a research need, priority or project ($n = 22$), amongst other activities in Figure 5. Involvement with academic research was higher among the Public Health, Insight and Migration (PHIM) directorate where 71.4% ($n = 15$ of 21) reported being involved in at least one type of academic research activity. Moderate involvement was indicated among participants in Transportation & Highways ($n = 5$ of 12, 41.7%). Where directorates had a subsample over 20, involvement ranged from 14.3% to 25.0%.

The 18 participants who had collaborated with researchers on a project were from PHIM ($n = 6$), Education and Skills ($n = 4$), and five other teams. Collaborations were predominantly with local Warwick and Coventry Universities, and also with other universities, voluntary and community organisations, businesses, and the police. Qualitative descriptions of the academic research activities often related to local projects (e.g., evaluating new projects or understanding an issue), with some examples of collaborating with other cities and local authorities. A few participants described advising researchers or collaborating with researchers on research funds and grants.

“We have been [a] facilitator, developing funding bids, designing research and working in collaboration with partners to support research to be carried out.” (P5, Transportation & Highways)

Just over one quarter of 256 respondents ($n = 70$, 27.3%) had used research evidence to inform work in the last 12 months. Grey literature was the type of evidence most often used ($n = 42$), followed by research-based guidelines ($n = 27$), journal articles of single studies ($n = 22$), systematic reviews ($n = 16$), and conference abstracts ($n = 5$).

Participants qualitatively reported that evidence was used to understand more about a topic, and apply evidence to practice, decision-making, and guidance given to providers. Two participants had critically appraised evidence using tools and commented that this was because they had a research background or had received support from a university academic.

“We use research articles for benchmarking training and development opportunities for our underrepresented groups at the Council.” (P17, Human Resources & Organisation)

“I used [researcher’s] expertise from Coventry University to help me gain understanding of the literature.” (P78, Public Health, Insight & Migration)

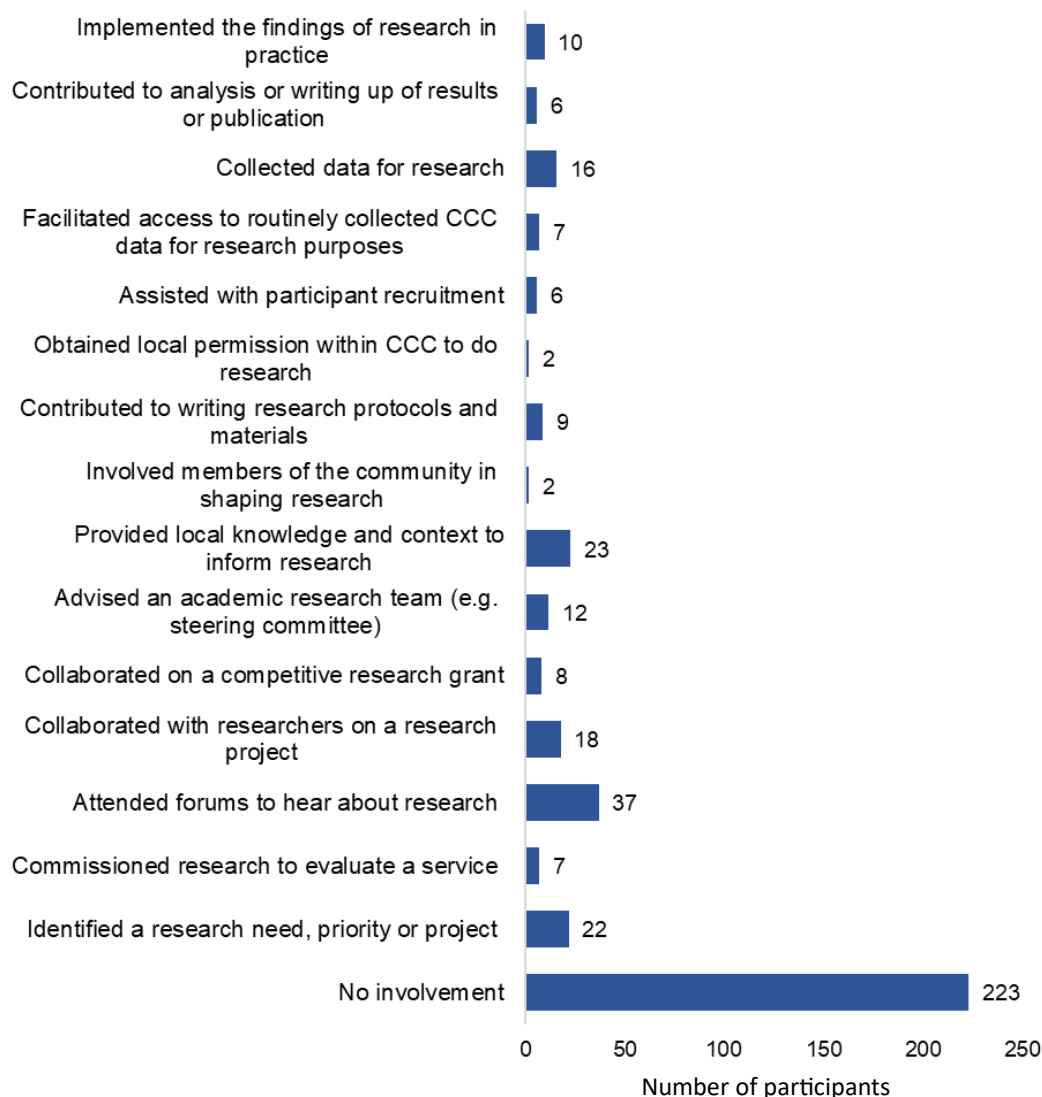


Figure 5. Involvement (if any) in academic research in the previous 12 months. Wording has been adapted for the Figure. Original wording is in Appendix 2.

Organisational Research Culture and Capacity

Participants reported about research culture and capacity in Coventry City Council ($n = 123$, Cronbach's $\alpha = .99$, Table 1) and their department ($n = 105$, Cronbach's $\alpha = .98$, Table B in Appendix 2). Mean scores reflected lower-medium skill or success for the organisation, and all items scored between 3.5 and 4.6 on a 10-point scale. Scoring highest was that Coventry City Council engages external parties (e.g., universities) in academic research. The lowest scoring item related to having mechanisms to monitor academic research quality. These results were illustrated by free-text comments that academic research was not widely prioritised in the Council.

“This [research] is an area we know has potential but it gets put off because of the day job.” (P44, Public Health, Insight & Migration)

“This is the first time I've ever heard it [academic research] mentioned by CCC.” (P15, Children's Services)

Some participants also indicated not knowing how the Council supported research, which made it challenging for participants to answer the questions.

“I have never been involved in academic research in my current role. I am unaware of the Council's involvement.” (P16, Transportation & Highways)

Individual's Self-Reported Knowledge and Skills

Participants reported about their own research knowledge and skills ($n = 107$, Cronbach's $\alpha = .96$). On average, scores indicated lower-medium skill or success (Figure 6). Mean scores were highest for finding relevant academic literature, collecting data, and analysing data, and lowest for writing academic protocols, publishing in peer-reviewed journals, submitting an ethics application, and securing research funding. Statistically significant differences were identified between participants with and without recent research involvement (Table C, Appendix 2). Participants with recent involvement scored moderate skill or success, higher on most items than those who reported no recent involvement in research (Figure 6). Similarly, participants with previous research-related training scored significantly higher than participants without previous training (Table D, Appendix 2).

Table 1

Research Culture and Capacity at Coventry City Council

Coventry City Council...	<i>M (SD)</i>
Engages external parties (e.g. universities) in academic research	4.64 (2.50)
Has senior managers that support academic research	4.49 (2.33)
Promotes practice based on academic evidence	4.41 (2.42)
Accesses external funding for academic research	4.26 (2.34)
Provides resources to support staff academic research training	4.12 (2.31)
Encourages academic research activities relevant to practice	4.12(2.36)
Ensures organisation planning is guided by academic evidence	4.11 (2.31)
Supports applications for academic research scholarships/degrees	4.00 (2.33)
Has a plan or policy for academic research development	3.99 (2.48)
Requires ethics approval for academic research activities	3.95 (2.45)
Provides access to literature search and article retrieval	3.89 (2.33)
Has software programs for analysing academic research data	3.85 (2.44)
Supports a multidisciplinary approach to academic research	3.80 (2.39)
Has residents involved in academic research	3.79 (2.31)
Provides experts accessible for academic research advice	3.76 (2.35)
Provides forums or bulletins to present academic research findings	3.72 (2.42)
Provides funds, equipment or admin to support academic research activities	3.73 (2.23)
Ensures staff career pathways are available in academic research	3.68 (2.31)
Supports the peer-reviewed publication of academic research	3.67 (2.23)
Has mechanisms to monitor academic research quality	3.59 (2.35)

Note. *M* = Mean, *SD* = Standard Deviation. Questions from the Research Culture and Capacity Tool (16). Response options from 1 (lowest *possible skill or success level*) to 10 (*highest possible skill or success level*).

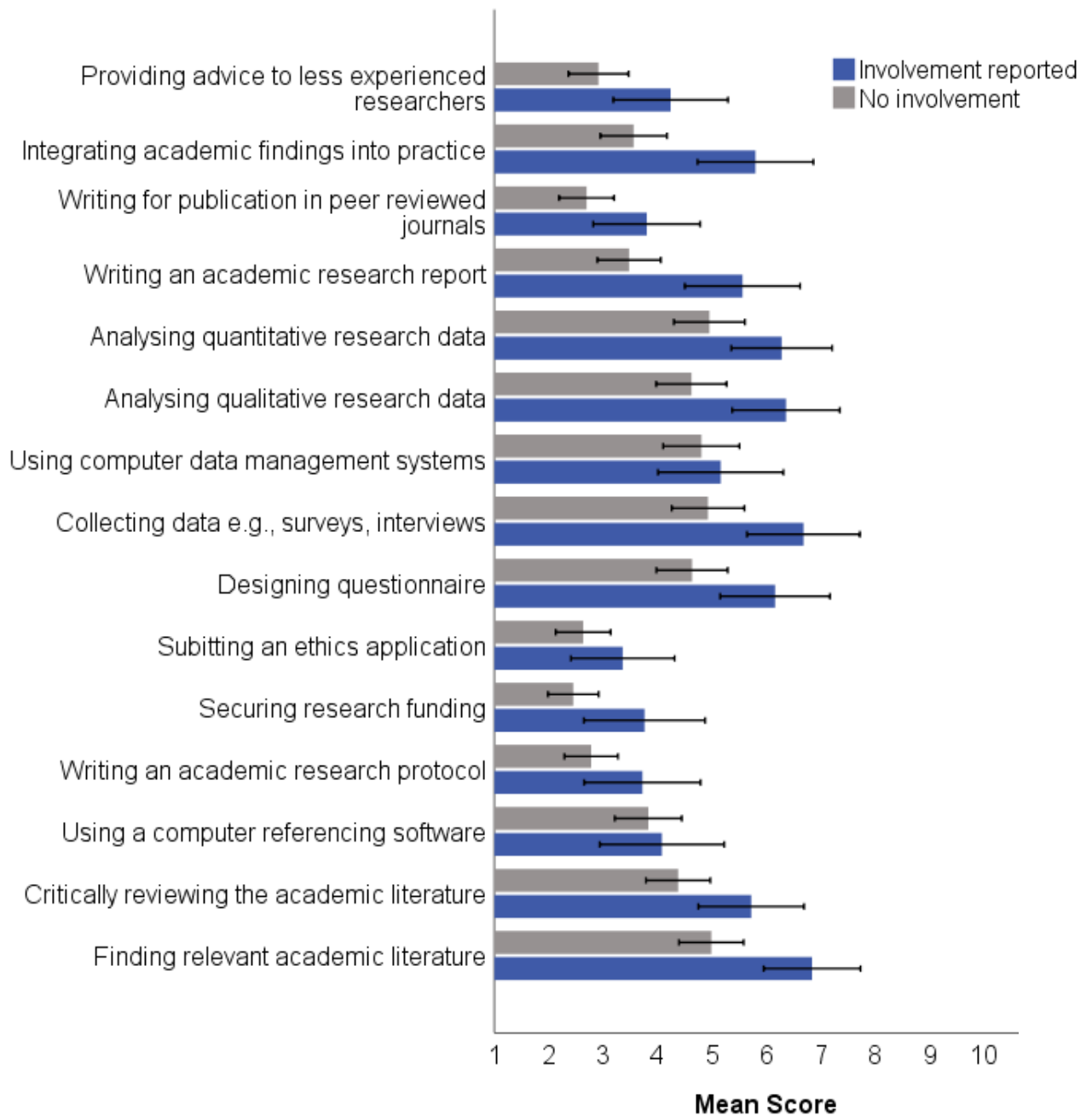


Figure 6. Knowledge and skills among Coventry City Council participants with and without recent research involvement. Items from the Research Capability and Capacity Tool on a 10-point scale (16). Means and standard deviations are shown in Table C, Appendix 2.

Perceived Value of Research

Participants ($n = 105$, Cronbach's $\alpha = 0.95$) perceived that research was moderately valuable to policy or programme work (Figure 7; Table E, Appendix 2). Some comments suggested that Council infrastructure did not effectively facilitate research.

“There are many areas of the business that should draw upon academic research and evidence based practice.” (P18, Children’s Services)

One participant proposed that the value of research could be better realised by the embedding of structural processes:

“Could there be value in requiring a % of budget for any programme or project be top sliced prior to implementation for research and evaluation purposes.” (P2, Children’s Services)



Figure 7. Perceptions about the value of research in policy or programme work. 1 = not at all valuable, 5 = very valuable. Items from Seeking, Engaging with and Evaluating Research (SEER) (17). Means and standard deviations are shown in Table E, Appendix 2.

Existing Infrastructure to Facilitate Research

Participants ($n = 104$) reported limited knowledge of existing infrastructure to support academic research at Coventry City Council, including obtaining permissions, resident involvement, and having access to support and experts (Figure 8; Table A, Appendix 3). It was common for participants to report not having sufficient time for academic research within their roles. Participants neither agreed nor disagreed that being involved in academic research would enhance careers.

Most participants were not aware of key examples of research infrastructure beyond the Council (Table B, Appendix 3). Awareness of the Coventry Health Determinants Research Collaboration (HDRC) was higher than awareness of other NIHR infrastructure and the local clinical research network, yet 76.2% of participants were either not aware of the HDRC (49.5%) or what the HDRC does (26.7%). Three participants had used the HDRC to support research activity.

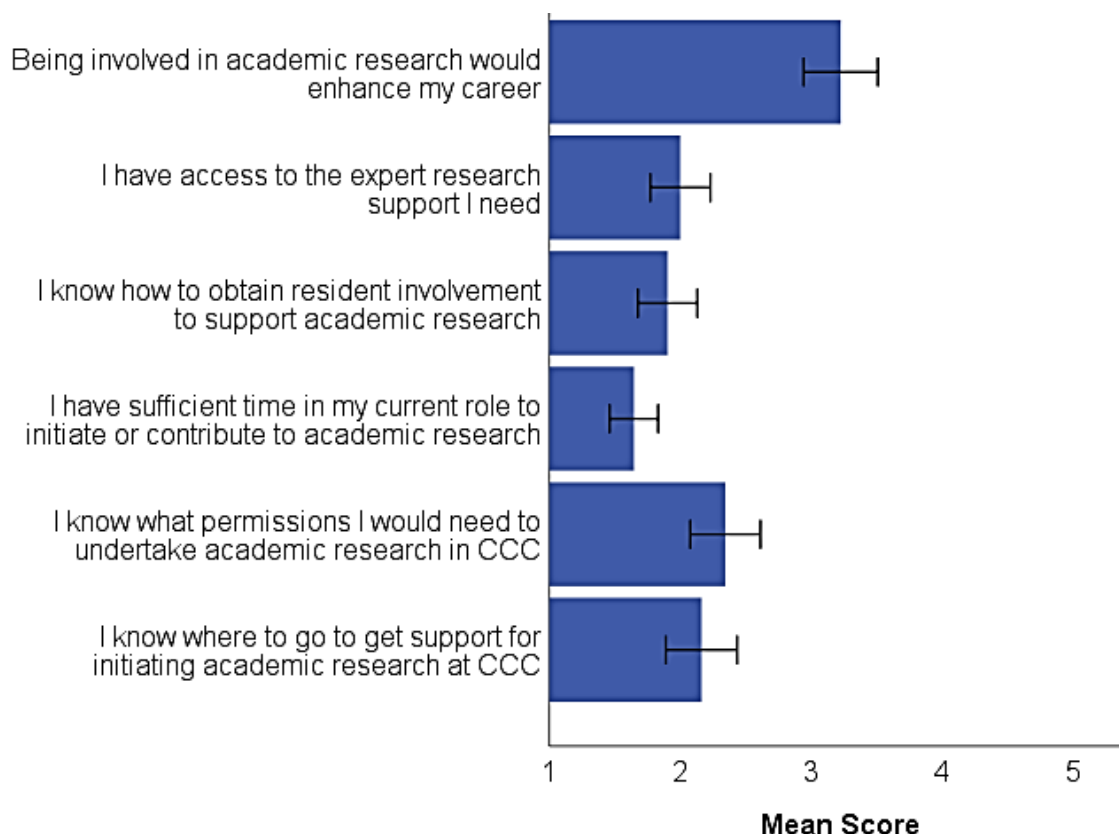


Figure 8. Knowledge and beliefs about carrying out research at Coventry City Council (CCC). 1= strongly disagree, 5 = strongly agree. Error bars are 95% Confidence Intervals. Means and standard deviations are shown in Table A, Appendix 3.

Training Experience and Needs

Around half of participants had never received training in research ($n = 56$, 52.8%). Other participants had received training prior to working at the Council ($n = 47$, 44.3%) and/or within their current Council role ($n = 7$, 6.8%) (Figure 9).

Formal research training such as a PhD, degree-level research methods modules, or other specific research training was reported by 28 participants. In this way, some participants had notable experience with academic research, including co-supervising a PhD student, co-developing funding bids, and links to academic publication. Linking with the limited capacity for research in the Council currently, research skills were sometimes being underutilised.

“I had a good amount of practice with different research methods during my university degree... However, I perceive the academic standards for work in the council to be quite low, so I usually compromise on the level of academic rigour to save time.” (P4, Public Health, Insight & Migration)



Figure 9. Previous involvement, if any, in research-related training prior to or within participants' current role at Coventry City Council.

Most participants reported not needing further training, because research was not thought to be relevant for their role ($n = 67, 61.5\%$) or because they already had adequate training ($n = 11, 10.1\%$) (Figure 10). Remaining participants ($n = 31, 28.4\%$) felt they needed further research training to deliver their role, and provided examples including data analysis, understanding data, writing for publication, and how to apply evidence to practice. Some participants also described needing better access to research articles and time to access research within their roles.

“I’m just not sure that [research training] would be appropriate or how it would benefit our department.” (P50, Legal & Governance Services)

“Conducting and analysing quantitative and qualitative research and writing for peer reviewed journals.” (P14, Streetscene and Regulatory)

“Although I do not consider there to be a clear need for academic research skills in my role or developed resources to better facilitate access to research, I would not reject the opportunity to receive further training and may find it does support enhanced performance.” (P55, Business Investment and Culture)

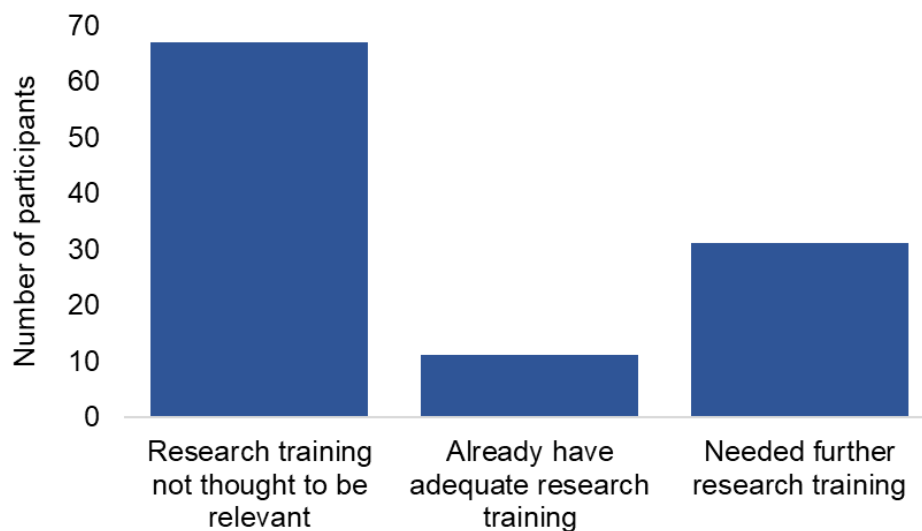


Figure 10. Beliefs about the relevance and need for future research-related training.

Survey 2) Reported Functioning of the Collaboration Among HDRC Members

Participants

A total of 20 participants working with the HDRC completed the survey, out of 38 individuals who were invited to take part (see Figure 2). Response rates are reported where a denominator can be accurately determined but do not account for the prefer not to say choice. Organisations represented were Coventry City Council ($n = 7$; 41.2% response rate), Higher Education Institutions ($n = 5$; 71.4% response rate), NHS ($n = 3$; 60.0% response rate), and VCSE ($n = 3$; 37.5% response rate). Remaining participants ($n = 3$) were either a public contributor or preferred not to say. Participants with joint-appointments could select more than one.

Participants were involved in the HDRC via work with a Pillar ($n = 11$), the VCSE Reference Group ($n = 3$), and/or the Management Committee ($n = 14$, 66.7% response rate) and/or Executive Committee ($n = 6$, 66.7% response rate). Response rate from individuals involved only in the executive committee was 40.0%. Most participants had been involved in the HDRC for between 1 and 2 years ($n = 15$), and otherwise for under 6 months ($n = 2$) or between 6 months and 1 year ($n = 3$).

Collaboration Functioning

Responses to the Wilder Collaborations Factor Inventory had good reliability (Cronbach's $\alpha = .95$). Most often participants tended to agree (i.e., were satisfied) with different aspects of collaboration. Figure 11 shows scores for each domain and individual item scores are included in Appendix 4.

Factors that scored highest (reflecting agree to strongly agree) were “unique purpose [of the HDRC]”, “members see collaboration [the HDRC] as being in their self-interest”, and “mutual respect, understanding and trust”. Factors with the lowest scores (reflecting neutral or no opinion) were “multiple layers of participation”, “sufficient funds, staff, materials and time”, and “development of clear roles and policy guidelines”.

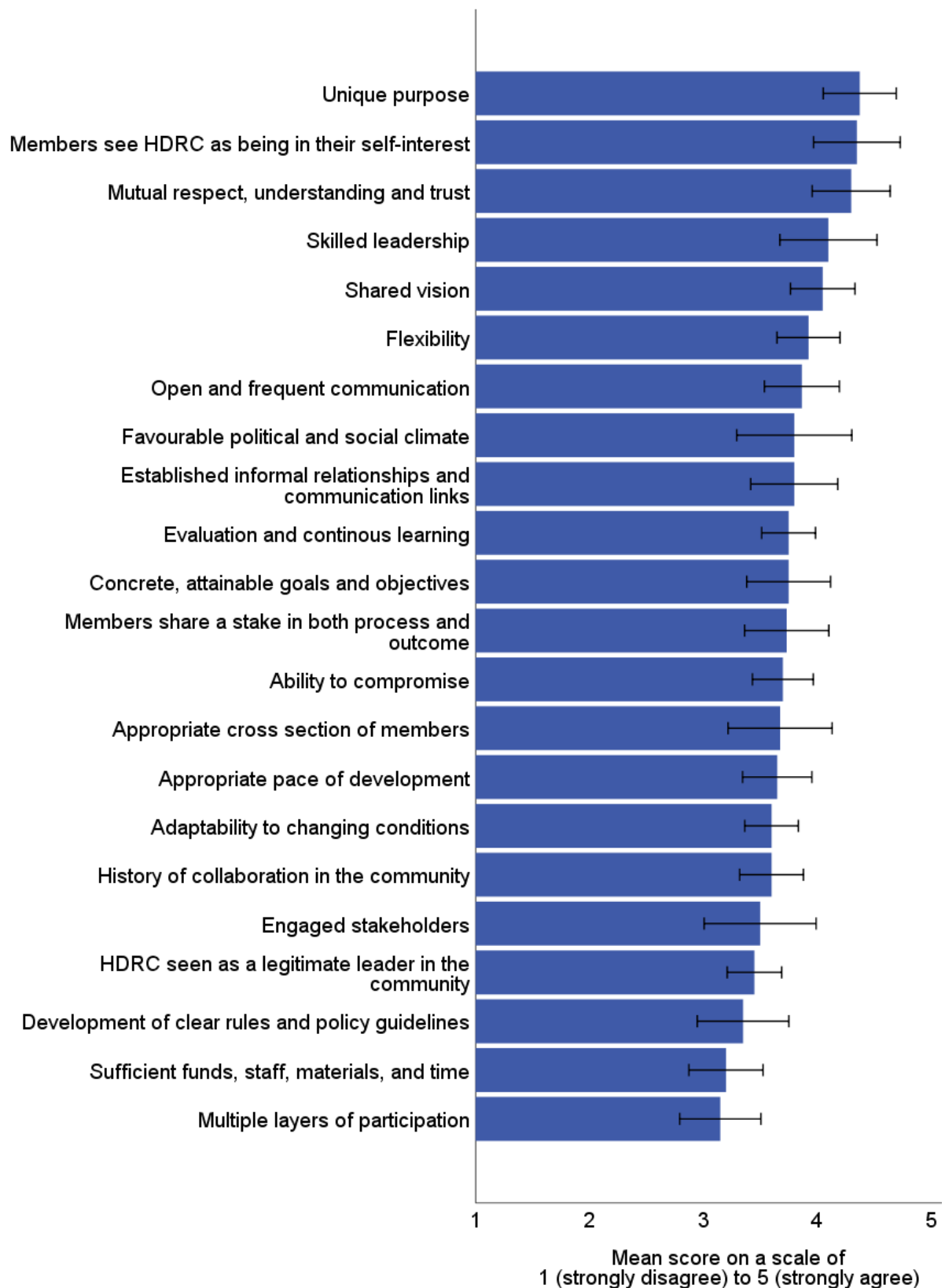


Figure 11. Mean scores for each domain of the Wilder Collaboration Factors Inventory. HDRC = Health Determinants Research Collaboration. Error bars reflect 95% confidence intervals. Items, means and standard deviations are in Appendix 4.

Suggestions to Enhance Collaboration

The survey invited participants to comment on how the collaboration could be improved, and eleven participants provided comments about this. Comments were received from all five types of organisations/groups and these participants were involved in the Management Committee ($n = 9$), Pillars or VCSE Reference Group ($n = 9$) and/or the Executive Committee ($n = 2$)

Table 6 summarises the CFIR constructs identified from comments and presents illustrative quotes. Notable barriers to implementation related to the high complexity of the HDRC innovation, and challenging financial and political contexts in the outer setting of Coventry City Council. These barriers compounded with challenges in working towards HDRC outcomes within the capacity and resource allocated to roles in the inner setting of the HDRC. Similarly, some participants reported limited opportunity for reflective and collaborative discussion within current processes for HDRC communication. Positive comments about other individuals in the HDRC were stated and facilitated collaboration.

Table 2

Consolidated Framework for Implementation Research domains and constructs identified among comments from HDRC members

CFIR Domain	Identified CFIR constructs	Barriers and facilitators to implementation	Illustrative quotes
Innovation domain	Complexity	Barrier: HDRCs are complex and novel, requiring time to understand and deliver	<i>“It is a substantial task and so novel, that it will take time to authentically embed and deliver”</i>
Outer setting	Local conditions; policies & laws; critical incidents; partners & connections	Barriers: timelines for council processes; competing financial and political contexts; delays with partnership contracts; change in senior Council staff delayed early progress.	<i>“The work of the HDRC is hindered by some of the wider challenges in collaborating with the council and voluntary sector and the financial and political context in local authorities.”</i>

		Involving wider individuals from across collaborating organisations could better facilitate networks.	<i>“Need to ensure the breadth of personnel across the organisations begin to form links beyond those directly named in the HDRC”</i>
Inner setting	Structural characteristics (work infrastructure); available resource; communications; relational connections; compatibility	Barriers: Inter-pillar communication challenges; meetings focussed on updates rather than reflective discussion; scale of the vision exceeding resource and capacity available. Facilitator: Positive appraisals of working with individuals in the HDRC	<i>“The work to date has felt quite transactional and pillar-led. It would be helpful to see some of the bigger picture and how it is all coming together to achieve our aims.”</i> <i>“Colleagues working on the HDRC are without exception a pleasure to work with.”</i>
Individuals	Characteristics subdomain (COM-B)	Barrier: Limited capability to engage with the HDRC within substantive role	<i>“Feel quite remote from it all. Don’t really have the capacity to engage fully. Doesn’t feel central to our work.”</i>
Process	Reflecting & evaluating; engaging	Barrier: Limited opportunities for reflective and collaborative practice Increased communications with citizens could promote awareness	<i>“It is quite rare to get together as a wider team with space for reflection and discussion, which is challenging as the HDRC is evolving.”</i>

Note. HDRC = Health Determinants Research Collaboration. CFIR = Consolidated Framework for Implementation Research. (19)

Discussion

This study aimed to provide an early assessment of research culture and capacity at Coventry City Council and understand functioning of the collaboration in the HDRC. Survey data were collected in the early part of Coventry HDRC Year 2, reflecting an early phase of HDRC implementation, where outward facing work to influence Council research culture and capacity (e.g., training programmes, engagement events, introduction of governance processes) was at a very early stage.

Findings from Coventry City Council employees indicated that organisational research culture and capacity was at a relatively low level. However, there were many examples of participants (who were a self-selecting sample) having skills and experience in research. Around one quarter of participants in this survey had been involved in at least one type of research activity in the past 12 months, which most often was attending a conference or providing local input into research design. Involvement in a research project was via partnerships with universities or research organisations, rather than Council teams independently conducting academic research (14). Similarly, around one quarter of participants had used academic evidence to inform work, which was most often grey literature or research-based guidelines. On average, participants perceived research to be moderately valuable in a Council context, including for decision-making, identifying or understanding issues, and for monitoring and evaluation purposes. Despite these theoretical perceptions about the value of research, however, results indicated that the Coventry City Council are not currently equipped with infrastructure to enable teams to embed academic research within work.

Overall, participants reported low-medium skill and success at organisational, department and individual levels across various aspects of research culture and capacity. Participants were often not aware of any infrastructure to support research both internally (e.g., Council research governance processes) and externally (e.g., NIHR support structures). Although around half of participants that completed the question had previous academic training, translating these skills into research at Coventry City Council via organisational governance approvals, public involvement, and peer-reviewed publication was limited. These findings reflect wider evidence that

although notions of evidence-informed practice and decision-making may be supported, competing local authority contexts can limit a culture of research (13,20).

There were indications that involvement in research could be increased by building organisational infrastructure and capacity to be involved in research. At present, notable barriers to involvement related to capacity and time, training, and physical access to academic articles (14,21). These barriers will be crucial to consider as HDRCs develop, and align with wider research that has highlighted the importance of local practices and contexts, including financial or political challenges, when implementing research collaborations (13,22). In addition, strengthening perceptions that research can apply to and benefit diverse careers, and capitalising on the skills and experience that some individuals already have, may enhance a culture of research in the local authority.

Issues of capacity and complexity were also reflected in assessing functioning of the collaboration of the Coventry HDRC. Many Coventry HDRC members hold substantive posts where the HDRC is just part of their role and therefore competing demands on capacity, wider financial and political contexts, and the significant scale and complexity of HDRCs were indicated as challenges to implementation. These barriers align with early indications reported by other HDRCs (23), and other evidence that collaboration from multiple organisations is required to achieve ambitions such as that of the HDRC (24). Participants suggested that additional resources and people power from across collaborating organisations would better aid HDRC implementation. Participants agreed that the collaboration was functioning well, and collaborators were working together to help the HDRC succeed. Participants also positively appraised skilled leadership in the HDRC, with leadership known to be instrumental in supporting collaborator engagement and the implementation of complex programmes (23,25). Building on the respect and dedication among HDRC members, collaboration functioning may be enhanced through revising opportunities and mechanisms for meaningful communication across collaborators and through building available resource within the HDRC.

Integrating findings from Coventry City Council employees and HDRC members contributes understanding about implementing a research collaboration to tackle health determinants. Limited infrastructure to conduct academic research is currently

available at the Council, and building culture and capacity for research may help demonstrate the value of research. However, challenging financial and political climates exist within the Council and beyond, and are barriers to Council employees being involved in research, and to HDRC members navigating a complex and large-scale implementation project. These findings also suggest that each phase of the HDRC evaluation must be planned and delivered in ways that remain iterative and responsive to changing contexts (26).

Strengths and Limitations

The Coventry City Council sample reflected a variety of roles, directorates, and other characteristics (27). Data relating to the research aims were collected from over 200 participants. However, participants were self-selecting volunteers and may not reflect the wider workforce in terms of education, research interest, or experience. Potential bias in this self-selecting sample, plus the response rate, are therefore notable limitations. For example, most participants reported a higher education or postgraduate degree, and previous exposure to, or interest in, research may be lower among the wider workforce who did not begin or complete the survey. Results may therefore over-estimate current research involvement or culture at Coventry City Council. Participants were also less ethnically diverse than the Council workforce. Purposeful sampling of the Extended Leadership Team received limited uptake of participants completing the survey with a researcher, and alternative approaches should be explored in future iterations of the survey.

Sizes of Council subgroups, for example directorate, were insufficient to allow statistical comparison and may have influenced conclusions drawn. For example, over-representation of the Public Health, Insight and Migration directorate, who also reported higher involvement in research, may have contributed to an overestimation of research capacity in the wider workforce. The survey findings will be triangulated with other methods in the HDRC evaluation including interviews and focus groups, documentary analysis, observation methods, and case studies to build a comprehensive understanding of HDRC implementation.

In surveying HDRC members, responses were received from all types of eligible workstreams and collaborating sectors. Not all eligible members returned a survey,

however. Response rates were higher among individuals who are involved in the Management Committee compared to individuals who are involved only in the Executive Committee (scheduled for less frequent meetings). Under 40% of voluntary sector organisations were also represented.

Validated measures were prioritised in survey development to enhance rigour and enable comparison with other settings and contexts. However, this process highlighted that existing scales to investigate research culture were developed and tested outside of local authority contexts. The structures and contexts of NIHR HDRCs also vary substantially, and these findings cannot be generalised beyond the context of the Coventry HDRC and Coventry City Council. Finally, although these assessments reflect an early phase of HDRC implementation, it was not possible to conduct the surveys before the launch of the HDRC, therefore it is not a true baseline preceding all HDRC work. A small number of participants had already engaged with work via the Coventry HDRC.

Recommendations for the Coventry HDRC

Developing research culture and capacity

- Develop HDRC plans in ways that can remain flexible, and acknowledge the changing and challenging financial, political, or other emerging contexts in the local authority and beyond.
- Ensure HDRC plans are inclusive of Coventry City Council colleagues with diverse knowledge, skills or interest in academic research, and varying capacity to be involved in research.
- Recognise and capitalise on existing research skills and knowledge among Coventry City Council employees and identify ways for colleagues to share research skills across teams.
- Develop governance infrastructure that can enable Coventry City Council to lead and carry out research, and ensure widespread, clear communications about the expectations and requirements for governance.

- Facilitate a training offer that can upskill staff with no previous training or experience, and identify individuals with existing knowledge and skills to partake in advanced training or contribute to HDRC activities.
- Build upon existing perceptions around the value of research by showcasing the impact and benefits of evidence-based decision-making, research, and the HDRC.

Developing collaboration and communication

- Embed communication about HDRC activities across Coventry City Council to promote positive perceptions about research and increase knowledge about the developing research infrastructure.
- Collaboratively review internal HDRC communication pathways to enable reflective practice and meaningful discussion among collaborating individuals and organisations.
- Identify ways of increasing capacity and connectedness of individuals engaged in the development of the HDRC, including via streamlined communication, prioritization of available resource, and engaging widely with individuals from across collaborating organisations.

Evaluation

- Develop a comprehensive understanding of Council research culture and capacity, and HDRC functioning, via triangulation of survey findings with additional evaluation methods (interviews, focus groups, documentary analysis, observation, case studies).
- In future qualitative methods, greater explore perceptions of the HDRC among Council staff, and aspects of collaboration and leadership among HDRC members.
- Revise recruitment methods in future repetitions of the Council survey to increase response rates and ensure a more diverse sample (e.g., dissemination via Employee Networks). Consider targeted recruitment with specific teams, relevant to how the HDRC develops and functions.
- Conduct purposeful sampling for interviews and focus groups to target groups under-represented in the HDRC collaboration survey (e.g., Voluntary sector collaborators and Executive Committee members).

Conclusion

Health Determinants Research Collaborations (HDRCs) intend to build and develop a culture of research in local authorities. Through collaboration with universities and other partners, HDRCs aim to tackle the health determinants through better use of research and evidence. This study aimed to provide an early assessment of research culture and capacity at Coventry City Council, part of the Coventry HDRC, and explore functioning of the collaboration. Findings indicated that while there are examples of research activity, there is substantial scope to increase research culture and capacity. There are gaps in organisational infrastructure to access, use, contribute to, and lead academic research, which the HDRC intends to address. Whilst the participants may not reflect the wider Council workforce, there were many examples of academic research interest, skills, and experience that can be built upon as the HDRC develops. Critical barriers to engaging in research related to time and capacity, financial, and political contexts, and HDRC collaborators are therefore navigating a complex implementation. Overall, the collaboration was functioning well together. Enhancing reflective and collaborative communication across HDRC workstreams and building resource and capacity within the HDRC would further support implementation.

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Appendices

Appendix 1. Characteristics of participants in the research culture and capacity in Coventry City Council (CCC) survey (Tables A - C)

Table A

Participants starting and completing the survey and workforce figures per directorate

Directorate	Participants starting the survey (<i>N</i> = 335) (<i>n</i> ; %)	Participants completing the survey (<i>N</i> = 101) (<i>n</i> ; %)	Percent of CCC workforce in directorate (%)
Human Resources & Organisational Development	23 (6.9%)	10 (9.9%)	4.9%
Adult Services	46 (13.7%)	11 (10.9%)	19.5%
Communities	4 (1.2%)	2 (2.0%)	7.2%
Children's Services	51 (15.2%)	14 (13.9%)	17.3%
Legal & Governance Services	22 (6.6%)	10 (9.9%)	6.5%
Business Investment & Culture	13 (3.9%)	7 (6.9%)	7.2%
Finance & Corporate Services	21 (6.3%)	5 (5.0%)	3.9%
Education & Skills	58 (17.3%)	15 (14.9%)	11.5%
Streetscene & Regulatory Services	22 (6.6%)	6 (5.9%)	12.5%
Public Health, Insight & Migration	22 (6.6%)	11 (10.9%)	2.1%
Property Services & Development	11 (3.3%)	1 (1.0%)	3.8%
Transportation & Highways	13 (3.9%)	6 (5.9%)	4.0%
Corporate Communications	2 (0.6%)	0 (0.0%)	0.4%
Other ^a	17 (5.1%)	2 (2.0%)	NA
Prefer not to say or missing	10 (3.0%)	1 (1.0%)	NA

Note. *n* = number. CCC = Coventry City Council. NA = Not Applicable.

^aOther responses included the names of obsolete directorates or were ambiguous. Where specific teams were named, these have been counted under the relevant directorate. The directorate structure was correct at the time of data collection.

Table B

Council roles of participants starting and completing the survey

Role	Participants starting the survey (n; %)	Participants completing the survey (n; %)
Analyst	13 (3.9%)	7 (6.9%)
Consultant	5 (1.5%)	2 (2.0%)
Coordinator	21 (6.3%)	6 (5.9%)
Officer	112 (33.4%)	26 (25.7%)
Leader	8 (2.4%)	2 (2.0%)
Manager	71 (21.2%)	29 (28.7%)
Head of Service	15 (4.5%)	8 (7.9%)
Other	67 (20.0%)	15 (14.9%)
Prefer Not to Say or missing	23 (6.9%)	6 (5.9%)

Note. n = number.

“Other” responses most often described administration, assistant, or support worker roles.

Table C

Demographics of survey participants and Coventry City Council employees

Demographic	Participants		Coventry City Council workforce	
	Number	%	Number	%
Gender^a				
Female	56	55.5	3248	69.0
Male	36	35.6	1487	31.0
Other/Prefer to self-describe	1	1.0	/	/
Prefer not to say or missing	8	7.9	/	/
Ethnicity (short)				
Minority Ethnic	6	5.9	949	20.1
White	88	87.1	3308	69.9
Unknown	0	0	447	9.4
Prefer not to say	7	6.9	31	0.7
Age (years)				
16 – 24 ^b	2	2.0	169	3.6
25 – 34	14	13.9	763	16.1
35 – 44	23	22.8	999	21.1
45 – 54	34	33.7	1245	26.3
55 – 64	16	15.8	1320	27.9
65 or over	4	4.0	239	5.1
Prefer not to say or not reported	8	7.9	/	/

^a Reported as “sex” in Coventry City Council workforce figures.

^b Survey option was 18-24 years.

Appendix 2. Involvement, capacity, and culture of research at Coventry City Council
(Tables A – E)

Table A

Involvement, if any, in academic research in the previous 12 months

	Activity reported (<i>n</i>)	Percentage (<i>N</i> = 291) (%)
No involvement in academic research	223	76.6
Identified a research need, priority or project	22	7.6
Commissioned academic research to evaluate a service	7	2.4
Attended forums (e.g. conferences, workshops, symposia) to hear about academic research findings	37	12.7
Collaborated with researchers to develop or implement an academic research project	18	6.2
Collaborated on a competitive research grant application (e.g. NHMRC, ARC)	8	2.7
Acted in an advisory capacity to an academic research team (e.g. on a steering committee)	12	4.1
Provided local knowledge and context to inform the design and conduct of an academic research study	23	7.9
Involved members of the community in shaping an academic research plan	2	0.7
Contributed to the writing of academic research protocols and materials (e.g. surveys)	9	3.1
Obtained local permission within CCC to do academic research	2	0.7
Assisted with recruitment of research participants	6	2.1
Facilitated access to routinely collected CCC data for academic research purposes	7	2.4
Collected data for academic research (e.g. surveys, focus groups)	16	5.5
Contributed to analysis and/or writing up of academic research results, or to other aspects of a research publication	6	2.1
Implemented the findings of academic research in practice	10	3.4

Note. *n* = number. CCC = Coventry City Council.
Participants could select more than one type of activity.

Table B

Research Culture and Capacity Scores for Participant's Council Department

My department in Coventry City Council...	Item scores (<i>N</i> = 105) <i>M</i> (<i>SD</i>)
Provides resources to support staff academic research training	3.79 (2.56)
Provides funds, equipment or admin to support academic research activities	3.50 (2.51)
Does team level planning for academic research development	3.29 (2.25)
Ensures staff involvement in developing that plan	3.22 (2.30)
Has team leaders that support academic research	4.34 (2.82)
Provides opportunities to get involved in academic research	3.53 (2.42)
Does planning that is guided by academic evidence	3.82 (2.35)
Has resident involvement in academic research activities or planning	3.39 (2.32)
Has applied for external funding for academic research	3.66 (2.68)
Conducts academic research activities relevant to practice	3.70 (2.67)
Supports applications for academic research scholarships/degrees	3.82 (2.71)
Has mechanisms to monitor academic research quality	3.30 (2.45)
Provides experts accessible for academic research advice	3.19 (2.28)
Disseminates academic research results at research forums/seminars	3.21 (2.31)
Supports a multidisciplinary approach to academic research	3.89 (2.71)
Has incentives and support for mentoring activities	3.61 (2.52)
Has external partners (e.g., universities) engaged in academic research	4.32 (2.81)
Supports the peer-reviewed publication of academic research	3.49 (2.28)
Provides software available to support academic research activities	3.11 (2.31)

Note. *M* = Mean, *SD* = Standard Deviation. Questions from the Research Culture and Capacity Tool (16). Response options from 1 (lowest possible skill or success level) to 10 (highest possible skill or success level)

Table C

Knowledge and skills in academic research self-reported by participants with and without involvement in research activities in the past 12 months

I have skills in...	All participants (<i>n</i> = 107) <i>M</i> (<i>SD</i>)	Involved in research activities (<i>n</i> = 25) <i>M</i> (<i>SD</i>)	Not	Test statistic ^a (<i>t</i>)
			involved in research activities (<i>n</i> = 82) <i>M</i> (<i>SD</i>)	
Finding relevant academic literature	5.42 (2.70)	6.84 (2.15)	4.99(2.71)	3.52**
Collecting data e.g., surveys, interviews	5.34 (3.01)	6.68 (2.51)	4.93 (3.04)	2.91**
Analysing quantitative research data	5.26 (2.86)	6.28 (2.25)	4.95 (2.97)	2.40*
Analysing qualitative research data	5.03 (2.91)	6.36 (2.40)	4.62 (2.95)	3.03**
Designing questionnaires	4.99 (2.93)	6.16 (2.44)	4.63 (2.98)	2.61*
Using computer data management systems	4.89 (3.09)	5.16 (2.79)	4.80 (3.19)	0.54
Critically reviewing the academic literature	4.69 (2.67)	5.72 (2.35)	4.38 (2.69)	2.43*
Integrating academic research findings into practice	4.08 (2.89)	5.80 (2.58)	3.56 (2.78)	3.73**
Writing an academic research report	3.96 (2.76)	5.56 (2.57)	3.48 (2.65)	3.57**
Using a computer referencing software (e.g., Endnote)	3.89 (2.78)	4.08 (2.77)	3.83 (2.80)	0.43
Providing advice to less experienced researchers	3.22 (2.56)	4.24 (2.55)	2.91 (2.52)	2.30*
Writing an academic research protocol	3.00 (2.35)	3.72 (2.59)	2.78 (2.24)	1.66
Writing for publication in peer reviewed journals	2.95 (2.36)	3.80 (2.38)	2.70 (2.30)	2.23*
Submitting an ethics application	2.80 (2.31)	3.36 (2.31)	2.63 (2.30)	1.41
Securing research funding	2.76 (2.32)	3.76 (2.70)	2.45 (2.12)	2.22*

Note. *M* = Mean, *SD* = Standard Deviation, *t* = test statistic. Questions from the Research Culture and Capacity Tool (16). Responses from 1 (lowest possible skill or success level) to 10 (highest possible skill or success level).

^aIndependent t-tests comparing participants with involvement in academic research activities in the past 12 months, and those with no recent involvement.

* $p < .05$ ** $p < .01$

Table D

Knowledge and skills in academic research reported by participants with and without previous academic training

I have skills in...	Previous training (<i>n</i> = 49) <i>M</i> (<i>SD</i>)	Without previous training (<i>n</i> = 55) <i>M</i> (<i>SD</i>)	Test statistic (<i>t</i>)
Finding relevant academic literature	6.57 (2.36)	4.44 (2.59)	-4.31**
Collecting data e.g., surveys, interviews	6.39 (2.61)	4.63 (3.06)	-3.14**
Analysing quantitative research data	6.29 (2.51)	4.52 (2.91)	-3.30**
Analysing qualitative research data	6.00 (2.81)	4.31 (2.79)	-3.09**
Designing questionnaires	5.98 (2.54)	4.26 (2.95)	-3.19**
Using computer data management systems	5.53 (3.01)	4.39 (3.09)	-1.90
Critically reviewing the academic literature	5.94 (2.30)	3.61 (2.47)	-4.96**
Integrating academic research findings into practice	5.82 (2.79)	2.74 (2.07)	-6.40**
Writing an academic research report	5.27 (2.68)	3.00 (2.36)	-4.63**
Using a computer referencing software (e.g., Endnote)	4.63 (3.05)	3.28 (2.41)	-2.58*
Providing advice to less experienced researchers	4.22 (2.79)	2.48 (2.10)	-3.66**
Writing an academic research protocol	3.86 (2.50)	2.33 (2.00)	-3.48**
Writing for publication in peer reviewed journals	3.90 (2.71)	2.24 (1.68)	-3.93**
Submitting an ethics application	3.53 (2.62)	2.28 (1.86)	-2.89**
Securing research funding	3.45 (2.54)	2.24 (2.00)	-2.69**

Note. *M* = Mean, *SD* = Standard Deviation, *t* = test statistic from t-test.

Questions from the Research Culture and Capacity Tool (16). Response options from 1 (lowest possible skill or success level) to 10 (highest possible skill or success level).

* *p* < .05 ** *p* < .01

Table E

Perceptions of the value of research in policy or programme work, on a five-point scale.

It is valuable to use academic research in policy or programme work to:	Score (N = 105) M(SD)
Identify issues that require a policy or program response	3.86 (1.07)
Understand how to think about issues	3.84 (1.11)
Decide about content or direction of a policy or program	3.87 (1.07)
Persuade others to a point of view or course of action	3.73 (1.09)
Design the implementation or evaluation strategy for a policy or program	3.85 (1.11)
Monitor implementation or evaluate the impact of a policy or program	3.84 (1.11)
Meet organisational requirements to use academic research	3.62 (1.20)

Note. *M* = Mean, *SD* = Standard Deviation

Response options from 1 (not at all valuable) to 5 (very valuable)

Items from Seeking, Engaging with, and Evaluating Research (17).

Appendix C: Existing infrastructure to support research (Tables A – B)

Table A

Knowledge of infrastructure to support research at Coventry City Council on a five-point agreement scale (N = 104)

Item	Level of agreement <i>M(SD)</i>	Not Applicable <i>(n)</i>
I know where to go to get support for initiating academic research at CCC	2.17 (1.31)	3
I know what permissions I would need to obtain in order to undertake academic research in CCC (e.g. ethics, governance, GDPR, information security), or where I could go to find out this information	2.30 (1.28)	3
I have sufficient time in my current role to initiate or contribute to an academic research study	1.73 (1.00)	4
I know how to obtain resident involvement to support academic research activities	1.95 (1.14)	5
I have access to the expert research support I need	2.01 (1.12)	3
Being involved in academic research would enhance my career	3.28 (1.34)	8

Note. CCC = Coventry City Council, *M* = Mean, *SD* = standard deviation, *n* = number.

Responses from 1 (strongly disagree) to 5 (strongly agree) or Not Applicable.

Table B

Awareness of existing research infrastructure beyond Coventry City Council

Infrastructure	I am not aware of this organisation (n; %)	I have heard of this organisation, but not aware of what it does (n; %)	I am aware of this organisation and how it can facilitate research, but have not used it (n; %)	I have used this organisation to support my research activity (n; %)
NIHR Research Support Service (or former NIHR Research Design Service) ^a	68 (66.7%)	24 (23.5%)	10 (9.8%)	0 (0.0%)
Local clinical research network ^a	75 (73.5%)	21 (20.6%)	5 (4.9%)	1 (1.0%)
NIHR INVOLVE / Centre for Engagement and Dissemination ^a	80 (78.4%)	18 (17.6%)	4 (3.9%)	0 (0.0%)
Coventry Health Determinants Research Collaboration ^b	49 (48.5%)	28 (27.7%)	21 (20.8%)	3 (3.0%)

Note. n = number. NIHR = National Institute of Health and Care Research.

^aN = 102

^bN = 101

Appendix 4

Item and factor scores from the Wilder Collaboration Factors Inventory ($N = 20$)

Wilder Factor	Factor Score $M(SD)$	Item	Item Score $M(SD)$
History of collaboration in the community	3.60 (0.60)	Agencies in Coventry have a history of working together.	3.80 (0.61)
		Trying to solve problems through collaboration has been common in this community. It has been done a lot before.	3.40 (0.68)
HDRC seen as a legitimate leader in the community	3.45 (0.51)	Leaders in this community who are not part of the HDRC team seem hopeful about what we can accomplish.	3.40 (0.68)
		Others (in this community) who are not a part of the HDRC team would generally agree that the organisations involved in the HDRC are the “right” organisations to make this work.	3.50 (0.61)
Favourable political and social climate	3.80 (1.08)	The political and social climate seems to be “right” for starting a collaborative project like this one	3.45 (1.3)
		The time is right for the HDRC.	4.15 (0.99)
Mutual respect, understanding and trust	4.30 (0.73)	People involved in the HDRC team trust one another	4.15 (0.88)
		I have a lot of respect for the other people involved in the HDRC.	4.45 (0.69)
Appropriate cross section of members	3.68 (0.98)	The people involved in the HDRC represent a cross section of those who have a stake in what we are trying to accomplish.	3.85 (1.09)

		All the organisations that we need to be members of the HDRC team have become members of the group.	3.50 (1.05)
Members see HDRC as being in their self-interest	4.35 (0.81)	My organisation will benefit from being involved in this collaboration.	4.35 (0.81)
Ability to compromise	3.70 (0.57)	People involved in the HDRC are willing to compromise on important aspects of our project.	3.70 (0.57)
Members share a stake in both process and outcome		The organisations that belong to the HDRC team invest the right amount of time in our collaborative efforts.	3.15 (0.93)
	3.73 (0.79)	Everyone who is a member of the HDRC team wants this project to succeed.	4.25 (0.72)
		The level of commitment among the HDRC participants is high.	3.80 (0.89)
Multiple layers of participation	3.15 (0.76)	When the HDRC team makes major decisions, there is always enough time for members to take information back to their organisations to confer with colleagues about what the decision should be.	3.45 (0.76)
		Each of the people who participate in decisions in the HDRC team can speak for the entire organisation they represent, not just a part.	2.85 (1.23)
Flexibility	3.92 (0.59)	There is a lot of flexibility when decisions are made; people are open to discussing different options.	3.80 (0.70)
		People in the HDRC team are open to different approaches to how we can do	4.05 (0.61)

		our work. They are willing to consider different ways of working.	
Development of clear rules and policy guidelines	3.35 (0.86)	People in the HDRC team have a clear sense of their roles and responsibilities.	3.50 (1.00)
		There is a clear process for making decisions among the partners in the HDRC.	3.20 (1.01)
Adaptability to changing conditions	3.60 (0.50)	This HDRC is able to adapt to changing conditions, such as fewer funds than expected, changing political climate, or change in leadership.	3.60 (0.50)
		The HDRC team has the ability to survive even if it had to make major changes in its plans or add some new members in order to reach its goals.	3.60 (0.75)
Appropriate pace of development	3.65 (0.65)	The HDRC team has been careful to take on the right amount of work at the right pace.	3.75 (0.79)
		The HDRC team is currently able to keep up with the work necessary to coordinate all the people, organisations, and activities related to the HDRC.	3.55 (0.76)
Evaluation and continuous learning	3.75 (0.51)	A system exists to monitor and report the activities and/or services of the HDRC.	4.00 (0.56)
		We measure and report the outcomes of the HDRC.	3.90 (0.64)
		Information about our activities, services, and outcomes is used by members of the HDRC team to improve our joint work.	3.35 (0.81)

Open and frequent communication	3.87 (0.70)	People in the HDRC communicate openly with one another.	3.90 (0.85)
		I am informed as often as I should be about what is going on in the HDRC.	3.80 (0.95)
		The people who lead the HDRC communicate well with the members.	3.90 (0.64)
Established informal relationships and communication links	3.80 (0.82)	Communication among the people in the HDRC team happens both at formal meetings and in informal ways.	3.85 (0.88)
		I personally have informal conversations about the HDRC with others who are involved in the HDRC team.	3.75 (0.97)
Concrete, attainable goals and objectives	3.75 (0.79)	I have a clear understanding of what the HDRC is trying to accomplish.	3.90 (1.02)
		People in the HDRC team know and understand our goals.	3.75 (0.85)
		People in the HDRC team have established reasonable goals.	3.60 (0.88)
Shared vision	4.05 (0.60)	The people in the HDRC team are dedicated to the idea that we can make this project work.	4.25 (0.55)
		My ideas about what we want to accomplish with the HDRC seem to be the same as the ideas of others.	3.85 (0.88)
Unique purpose	4.38 (0.69)	What we are trying to accomplish with the HDRC would be difficult for any single organisation to accomplish by itself.	4.55 (0.61)
		No other organisation in the community is trying to do exactly what we are trying to do.	4.20 (0.95)

Sufficient funds, staff, materials and time	3.20 (0.70)	The HDRC team has adequate funds to do what it wants to accomplish.	3.45 (0.69)
		The HDRC team has adequate “people power” to do what it wants to accomplish.	2.95 (0.89)
Skilled leadership	4.10 (0.91)	The people in leadership positions for the HDRC have good skills for working with other people and organisations.	4.10 (0.91)
Engaged stakeholders	3.50 (1.05)	The HDRC team engages other stakeholders, outside of the group, as much as we should.	3.50 (1.05)

Note. *M* = Mean. *SD* = Standard Deviation.
HDRC = Health Determinants Research Collaboration