Local Authority Research Systems: identifying the capacity and infrastructure needs of Birmingham City Council

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ABSTRACT

Background

Physical and mental health and wellbeing is determined by influences across the life-course including the built and natural environment, employment, education, welfare, transport, communication systems and health and social care. Since 2013, local authorities (LAs) have had a lead responsibility for public health and have an opportunity to tackle prevention and health inequalities.

Aim:

To understand better how Birmingham City Council engages with the research community and explore how to develop mechanisms to enhance collaboration and embed a sustainable research culture.

Methods:

Survey and qualitative interviews underpinned by COM-B theory and Theoretical Domains Framework.

(i) Online survey of BCC officers and elected members n=26.

(ii) Individual qualitative interviews with

- 14 purposively selected officers and elected members from BCC.
- 14 people in NIHR infrastructure, researchers and third sector organisations who interact with, or could support BCC's research.

Results

BCC staff reported more experience and confidence in using and interpreting evidence than undertaking primary research. BCC staff see the value and importance of research in a LA context and are motivated to engage with it, identify opportunities within routinely collected datasets within BCC and report examples of innovative practice in response to the COVID-19 pandemic as well as some examples of strong established research collaborations with local universities. Barriers to research include access to evidence, research skills, time, resources, lack of formal relationships with university partners and mismatched agendas and timescales between universities and LAs.

Recommendations

A range of options to further build research capacity with BCC are presented, including building infrastructure for research within BCC and developing closer and more formalised links with local universities. These will be explored within BCC and the University of Birmingham over coming months.

BACKGROUND

Physical and mental health and wellbeing are determined by complex, interrelated life experiences. Many preventable diseases are associated with 'upstream' influences which local government oversees, including the built and natural environment; employment, education, welfare, transport, health and social care, communication systems, and related policies.[1] Smoking, diet, hypertension, obesity, and substance misuse are the top five risk factors for premature deaths in England,[2] and all can be impacted by local authorities. Improving population health and wellbeing is complex, requiring collaborative cross-system working. The NHS Long Term Plan (2019)[3] highlights the importance of prevention and recognises the need for partnership working between the NHS and local government.

Health inequalities are significant, reflecting social and economic disparities. People living in the most deprived areas of England develop multiple long-term conditions ten years earlier than those in the least deprived areas.[4] Research is needed to understand and address these wider determinants of health and to understand how inequalities emerge across the life-course both within and across different socioeconomic groups,.[5] Successive reports have emphasised the need to shift the balance from treatment to prevention,[6,7] requiring reallocation of resources and a commitment to developing research and knowledge.

Public Health in local authorities and challenges to embedding research

Since the Health & Social Care Act (2013), public health has been a function of English LAs, with strategic leadership from Health & Wellbeing Boards. Consequently, LAs became responsible for reducing health inequalities and improving health and wellbeing; their local influence enables them to tackle these challenges. LAs can engage with research/ers in two main ways: (i) primary empirical work, and (ii) access/uptake of existing evidence. These are influenced by existing LA research capacity. In common with findings from other academic-service relationships,[8] LA public health professionals have identified barriers to engaging with researchers, including differences in timescales, limited budgets and difficulties in identifying appropriate researchers.[9]

Cooke[10] identified principles which operate at individual, team, organisation and supra-organisational levels to support research capacity development: develop skills and confidence, support linkages and partnerships, ensure research is 'close to practice', develop appropriate dissemination, invest in infrastructure, build sustainability and continuity. Other factors include prioritisation, research mentoring, leadership, funding networks and partnerships.[11] Research is needed to explore the extent to which these components are in

place in LAs and what infrastructure and capacity building is needed to embed research capacity and culture within LAs.

Research into the use of evidence by English LAs highlights the importance of local experts providing evidence and knowledge, and the value placed on local evaluation evidence despite varying methodological rigour.[15,16] This is demonstrated by variable use of evidence to underpin Health & Wellbeing Strategies,[17] with qualitative evidence particularly underused.[18] Further challenges include research being too far removed from practice, difficulties translating national evidence to local settings, and not accounting for local budget impacts,[19] inconsistencies in study findings,[20] poor access to good quality relevant research, and lack of timely research output.[21] We need to understand and respond to the needs of decision-makers working in public health to co-produce solutions to the underutilisation of research evidence in decision-making.[15]

AIMS AND OBJECTIVES

Our aim was to understand how BCC engages with the research community and explore how to develop mechanisms to enhance collaboration and embed a sustainable research system across the LA. Objectives are detailed in Figure 1.

Figure 1: Detailed study objectives

1. To map current and recent research activity between BCC and local and national partners (including universities, consultancies and thinktanks), to understand better the extent, nature and impact of collaborations.
2. To map the available infrastructure, capacity and resources (including existing datasets) to support research activity within BCC, and identify what additional resources would be needed to embed a sustainable research system.
3. To map research expertise, understand culture and capacity/opportunity for change within officers in the public health directorate, directorates responsible for the wider public health and social care, elected members and supporting infrastructure.
4. To identify opportunity for change in the way that researchers work with BCC to meet the needs of BCC.
5. To explore the views of stakeholders in relation to research and the potential for BCC to embed routine research, and to identify barriers, potential facilitators and infrastructure needs to embed a sustainable research system able to deliver research outputs relevant to the LA in a timely manner.
6. To explore potential mechanisms to improve interaction between public health and social care research.

METHODS

Design and theoretical/conceptual framework

This convergent parallel design mixed methods study[22] comprised two workpackages (WPs): a cross-sectional survey (WP1) and qualitative stakeholder interviews (WP2). To understand behavioural influences on research activity, questions in both WPs were informed by the Capability, Opportunity, Motivation, Behaviour (COM-B) theoretical model,[23] and the more granular Theoretical Domains Framework (TDF),[24] which maps directly onto COM-B. COM-B/TDF-informed questions were prioritised in collaboration with stakeholders.[25] 'Research' was defined as 'activity that creates new knowledge', includingprimary/secondary research and the use of research findings.

Setting/context

BCC serves the largest population in Europe in the UK's second largest city (population 1.14 million). It also has the youngest population, alongside substantial cultural and ethnic diversity. It is the 7th most deprived LA nationally: 43% of the population live in Lower Layer Super Output Areas in the 10% most deprived in England.[26] Birmingham has considerable health inequalities, and public health priorities consider equity, prevention and evidence-based practice in all health-related policies. BCC has research collaborations with several

local universities across multiple topics including childhood obesity, air quality, and supporting vulnerable children. BCC promotes listening to “seldom heard voices” and has recently identified infrastructure needs to support their strategic ambitions, including the need for a data and research ethics framework.

Workpackage 1

WP1 consisted of a survey to map current research activity between BCC and universities, and other research-active organisations and explore influences on research behaviours. The survey drew on previous similar work,[19,27] with input from PPIE representatives, the academic and LA research team, and was piloted before use.

Participants & recruitment

The survey was sent to councillors, and employees of grades 4 and above in policy, analyst and service manager roles within the public health directorate, housing, transport, environmental health, education, leisure, public involvement lead, and scrutiny managers; aiming for 200 responses. The survey was accessed via a web-link sent by email from BCC. Two reminders were sent.

Survey questions

The survey explored current/recent research activity; retrieval and use of evidence; initiation of research; awareness of internal and external research infrastructure; and time, environmental context, resources, and cultural norms affecting research. Questions included tick box and free text options, and statements to which participants indicated agreement or disagreement using a 5-point Likert-scale (Supplementary file A).

Data & statistical analysis

Responses to the 5-point scale were converted to a 0-100 scale: ‘strongly disagree’ = 0; ‘somewhat agree’ = 25; ‘neither agree nor disagree’ = 50; ‘somewhat agree’ = 75; ‘strongly agree’ = 100. Each statement was ranked by mean total score, from respondents who agreed the most, to respondents who agreed the least. Survey data are presented descriptively due to low response rates.

Workpackage 2

Study design

Semi-structured interviews with LA officers, elected members and other key stakeholders.

Study population

We aimed to interview 15-20 officers and elected members; purposively selected to include diverse contexts, characteristics, behavioural influences and people with decision-making

powers across BCC. Potential participants were invited by email from BCC which included a participant information leaflet. Participants contacted university researchers directly.

We aimed to interview 8-10 people from outside BCC to understand influences on engagement with BCC in undertaking and supporting research. Participants were drawn from the local NIHR infrastructure, including the Clinical Research Network (CRN) and Research Design Service (RDS); researchers who had collaborated with BCC, and third sector and voluntary organisations who might collaborate or seek to evaluate their interventions/services locally.

Data collection

Interviews were undertaken remotely using videoconferencing[28] or telephone, recorded on an encrypted digital recorder and transcribed verbatim. Interviews built on previous research[18,20] and topics in the survey. The topic guides (Supplementary files B and C) were tailored to participant role and drew upon COM-B and TDF to explore influences on 1) access/use of existing research and 2) initiating/delivering new primary research, and included questions on capability (e.g. research skills/knowledge); motivation (e.g. perceived usefulness of research) and opportunity (e.g. current/previous research exposure). Participants were asked about their awareness of research support infrastructure, and what could enable BCC to become an active research system.

Qualitative analysis

To provide timely findings while retaining rigour,[29] a rapid analysis was undertaken, eliminating the coding stage,[30,31] and combining deductive and inductive approaches. Key issues identified in the data were entered into 'summary templates', structured according to study objectives, including COM-B domains (deductive), with space for additional findings (inductive) and illustrative quotations. Templates were entered into a matrix for comparison across sources. Initial transcripts were reviewed by two researchers, and the template refined collaboratively. Findings were interpreted and summarised directly from the matrix and organised into subthemes according to study objectives and COM-B. The research team were invited to comment on the summary template and findings.

Mixed-methods data synthesis

The data from WP1 and 2 were brought together. Due to limited data, WP1 survey findings were used to highlight convergent or divergent results within and between WPs.[22]

RESULTS

WP1: SURVEY FINDINGS

Characteristics of respondents

Twenty-six surveys were returned (Table 1).

Table 1: Characteristics of survey respondents

Characteristic	Sub-group	Number (%)
Job role	Officer	23 (88.5)
	Elected Member	3 (11.5)
Directorate (n=23)	Partnership, Insight and Prevention	12 (52.2)
	Digital and Customer Services	6 (26.1)
	Inclusive Growth	2 (8.7)
	Finance and Governance	1 (4.3)
	Education and Skills	1 (4.3)
	Corporate Services	1 (4.3)
Role Type (n=23)	Analyst	7 (30.4)
	Business Support Officer/Manager	6 (26.1)
	Service Lead	5 (21.7)
	Public Health Officer	2 (8.7)
	Officer	2 (8.7)
	Consultant	1 (3.8)
Grade (n=23)	Grade 4	13 (56.5)
	Grade 5	7 (30.4)
	Grade 6	1 (4.3)
	Grade 7	2 (8.7)
Gender	Male	13 (50.0)
	Female	13 (50.0)
Age Group	25-34	1 (3.8)
	35-44	5 (19.2)
	45-54	12 (46.2)
	55-59	8 (30.8)
Educational qualifications	School Level	2 (7.7)
	Degree Level	7 (26.9)
	Higher Degree	13 (50.0)
	Professional Qualification	4 (15.4)

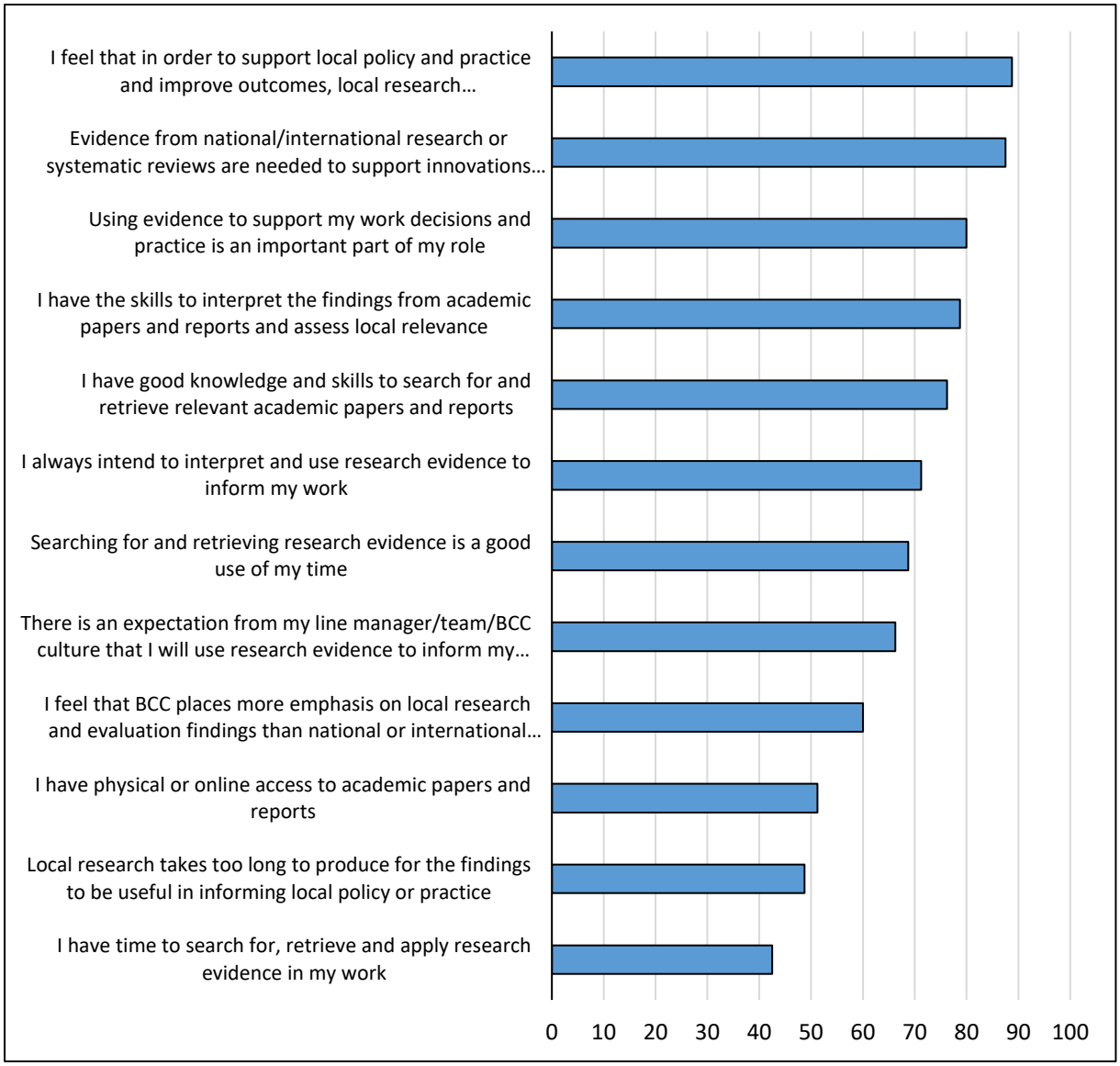
Research training and experience

Ten individuals (38.5%) reported receiving formal research training and 16 (61.5%) said they had practical research experience.

Using research evidence

Most respondents reported searching for and using published evidence to inform practice (n=20; 76.9%) (Figure 2). Whilst most felt that using research evidence was important, a lack of capacity to do so was frequently reported. Appendix 1 shows the spread of responses to each statement.

Figure 2: Agreement with statements about using research evidence (mean score)



Higher scores indicate greater agreement with statement; means calculated from the 20/26 respondents who reported using research evidence in their work

Perceived training needs for using evidence

Six respondents mentioned specific training needs:

- Literature searching and reviewing (n=2)
- Refresher training in identifying and using research evidence (n=3)
- Extracting information from academic papers (n=1)

One respondent expressed frustration with BCC restrictions on access to external evidence resources when using internal IT facilities or laptops.

Initiation of, or involvement in research

Six respondents reported involvement in **internally-led** research activity and four in **externally-led** research within the previous 5 years. External collaborators included CCGs, university academics, market research companies, regional/national community or charitable organisations, research consultancies, NHS England, and Public Health England. In terms of their role in externally-led research, respondents were most likely to provide local knowledge and context (n=3). Other roles included facilitation of recruitment, access to routine data, implementation and BCC permissions.

All respondents cited at least one barrier to research from a pre-specified list, and most cited multiple barriers. Frequently reported barriers related to obtaining research resources, having the right data/information and having time to deliver research. Other barriers covered internal research permissions, information governance, research skills gaps and mismatched timeframes of academic partners.

Frequently reported facilitators for internally-led research were: personal research skills (n=5 cited this), planning research before starting (n=4) and academic support (n=4).

Details of barriers and facilitators to internally-led research (Appendix figures 2 and 3.

Research methods training

Ten participants reported specific training needs:

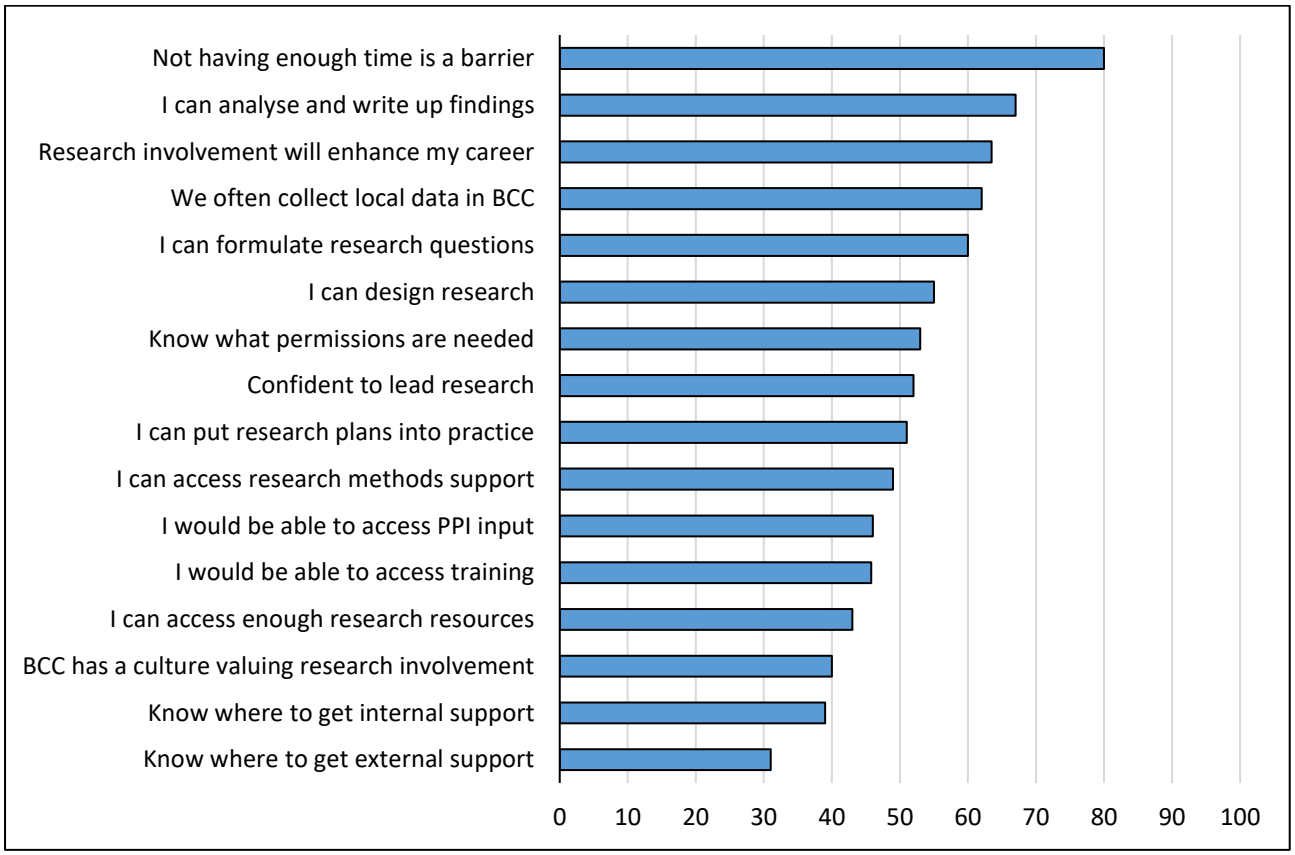
- Update/refresh existing skills (n=3)
- Research design (n=2)
- Literature searching, review and critical appraisal (n=1)
- Statistical software (n=1)
- Using data to inform policy decisions (n=1)

- Knowing which data sources to use and extracting information from these (n=1)
- Overcoming silo working to improve collaborations between LA (n=1)

Research skills and knowledge

Figure 3 shows participants' perceptions of their research skills and knowledge, and barriers to undertaking research; insufficient time was the greatest barrier. Appendix figure 4 shows the spread of responses across statements.

Figure 3: Mean score for agreement with statements about research activities



Higher scores indicate greater agreement with statement; means calculated from 25/26 respondents

Knowledge about research permissions and research support organisations

Few participants knew that BCC did not have ethics and governance approval processes (n=3 and n=2 respectively) (Appendix table 1). No participants had accessed NIHR support, and few were aware of the available organisations. (Appendix table 2).

Open comments

Open comments suggested ways to improve collaboration and cross-cutting research, and support for improving perceived time-consuming and labour-intensive elements of research (Figure 4).

Figure 4

- "Support for preparing work for publication as this is time consuming"
- "Research can take a long time which is off-putting"
- "Cross-cutting use of resources across BCC is important, so that research experience and analytical skills can be deployed into larger projects that couldn't be achieved on an individual basis"
- "More collaboration with universities needed to access research expertise"

WP2: QUALITATIVE STUDY

Twenty-eight interviews were undertaken. Fourteen were BCC members or officers covering five directorates (including six directors or deputy directors). The remaining interviewees were academics (n=9), charity staff (n=2) or NIHR staff(n=3). The majority of academics worked at UoB (n=7), and the other from another HEI within Birmingham. Disciplines included Applied Health Research, Social Policy, Business, Health psychology, and Geography, Earth and Environmental Sciences. Interviews lasted between 20 and 60 minutes.

COM-B and TDF were used to explore influences on LA use of, and engagement with, research. There was substantial overlap between findings in WP1 and 2, so an overall summary is presented.

Capability

> ***'Capability is defined as the individual's psychological and physical capacity to engage in the activity concerned. It includes having the necessary knowledge and skills.'*** [23]

Overall, participants reported variation in the skills, knowledge, confidence and understanding required to use, initiate and deliver research. Knowledge and skills described included research methods, project design, and evidence appraisal. It was suggested that

skills were stronger where staff had an NHS or academic background, and within Public Health.

> *'I always think that councils don't really understand the importance of evidence to the same extent as PH professionals.' ID21-BCC*

Having research partner(s) working within or with the team could facilitate improvement in knowledge and skills:

> *'I was very much part of that [research project] in the sense of I worked with the team to identify first of all what interventions that we could do and then how we could evaluate that. And that was real – I would describe that as proper co-production in the sense of we worked – and that was because I was already there as part of the team.' ID11-Academic*

Councillors with specific expertise or professional backgrounds were said to facilitate collaboration between BCC and research partners.

> *'We need to take account of what our councillors are telling us, from a local authority point of view, because they bring some informal evidence…certainly that link to communities.' ID22-BCC*

While staff research knowledge and skills were widespread, skill loss when individuals leave the organisation was cited as a major challenge.

Participants reported that officers generally had good knowledge about finding evidence and retrieving and using evidence-based guidelines (e.g. NICE). It was suggested that staff were skilled in identifying problems/questions, though translating this into a research project was more difficult:

> *'Staff have the skills necessary for identifying a problem that needs addressing, but not necessarily the skills to frame it in a research context'. ID11-Academic*

A key challenge was limited common understanding of what constitutes research (e.g. whether it includes community feedback), and why it is of value to the LA.

> *'I suppose you've got grey literature, but I was thinking much broader than that, so in terms of evaluations, which wouldn't necessarily be peer reviewed published work. I think there's also something in terms of needs assessments and what we do around those. I think a big part of the informal evidence base is what we get back from our communities which again isn't necessarily proper research.' ID22-BCC*

Participants described uncertainty about initiating research, and limited experience in approaching/engaging academics. Staff also reported knowledge gaps regarding research ethics and governance processes, funders (e.g. NIHR) and structures.

'Finding academics who are interested in the questions you are can be really hard…there's the community differences, different timelines, we have different priorities, different ways of assessing evidence' ID27-Academic (previous LA employee)

'the whole world of ethics and research governance isn't in the Council narrative' ID10-BCC

Opportunity

'Opportunity is defined as all the factors that lie outside the individual that make the behaviour possible or prompt it.'[23]

Resources including workforce

Finance, budget and workforce constraints impact on BCC's research capacity. Having a ring-fenced research budget was reported to help.

'The main council, what they need to do is some of the things that I've just alluded to, like actually have protected budgets to align to data, insight and research, because they connect to each other, which therefore – and having a protected budget that is dedicated on people and people skills and experience.' ID4-Charity (former BCC staff)

Workforce discontinuity was described as impacting on activity, exacerbated by limited planning for change, with staff not replaced, knowledge and skills lost, and projects losing traction when people left. HEI staff on fixed-term contracts were a further barrier:

'When I left for [role] *and someone else left...they never invested back into it, my role was never replaced' ID4-Charity (former BCC staff)*

Access to evidence was challenging in a LA, with many library and online resources available to HEI partners not open access.

'So it's the time and also the access to suitable research databases and websites that hold pertinence, articles. … So I suppose we're at a sticking point then, because if a Public Health Department hasn't got a sort of mature relationship with a research organisation, it's very hard to tap into those resources.' ID23-BCC

Time, priorities, capacity to focus on research

Limited research capacity and time was mentioned by many, where service delivery must take priority with finite budgets and pressing community needs. Research may be one of many responsibilities for individuals and teams, and it was suggested that some external partners do not fully appreciate this:

'So they didn't invest back into it and then they kind of were asked to cover then not just the skills they were there to do, research and insight, but then cover a bit of performance, a bit of this, a bit of that. So it was almost like diluting their skills to say 'oh well you can do this and you can do that…' ID4-Charity (former BCC staff)

Culture/politics

Team/directorate culture was reported to influence research activity, with variation in the inward/outward-looking approach, and senior management buy-in important. Research culture was perceived as particularly strong in the Public Health team. Silo working was identified to reduce collaboration. The power and seniority of individuals in the LA was described as influencing their ability to initiate contact and form relationships:

'You've got very senior buy-in from the top of the organisation… and that's really how you would want to drive it' ID8-BCC

History

One participant described a limited history of using evidence to inform decision-making, which was now changing. Limited collaboration and partnership working in the LA in the past was also reported. Pre-existing partnerships and relationships with researchers were reported to facilitate collaboration and development of research knowledge and skills.

'One of the big criticisms of Birmingham is how internally looking we are' ID19-BCC

Structure/strategy

BCC had embedded departmental CPD opportunities and seminars to facilitate research. While individuals described research plans, an overarching research strategy was not in place, which was considered a barrier. Limited formal governance and support structures existed to support/drive research activity. Directorates are centred around LA services rather than research, and research was not embedded in staff work programmes. Commissioned research was sometimes reported to duplicate existing work, and commissioning and project sign-off timescales were lengthy.

'There doesn't seem to be an organised culture of research with local authorities across the whole council, probably because the Council's so big, and people are so busy, and you can't take it any further, and there never seems to be any sort of central Council wide point of contact for research to tap in to' ID23-BCC

Research activity was described as relying on relationships. It was suggested that formal structures would facilitate informal discussions and communicate value of research e.g. joint events, joint appointments, embedded staff, HEI members on committees/boards, shared student placements, twinning of staff.

'From other people I've spoken to, it's more relationships that certain people within the Council have with academics is just because they happen to know somebody. It's very ad-hoc so there's no formal sort of research sort of two way street from what I can gather anyway.' ID21-BCC

Evidence and data

Staff described frustration when evidence to meet their needs was lacking, or did not align well with the local context. The LA provided many opportunities to undertake research, including using routine data, yet suitability of research datasets and systems were reported as barriers to undertaking primary research with local data (e.g. system capability/age, linkage across datasets/directorates/LAs).

'We have terabytes of the stuff [data]*…and without it being indexed or catalogued properly or classified, that means that you don't know what you may or may not want to use, so then I suppose it can either put you off or you end up relying on data that you know rather than trying to access data that may inform your wider understanding' ID8-BCC*

Similarly, the culture of using data from one service to inform other research or service changes may be lacking:

'A barrier is the quality of the data to a certain extent, especially if you want to reuse it outside of the service that's collected it. If you've collected data for a housing application and so on, that's the primary purpose, now of you want to use it for any other kind of research…there isn't that sort of mentality as in you collect if for the purposes of the organisation's wider aims, as opposed to just collecting if for the primary purpose of the delivery of that particular service. ID8-BCC

External partners

One participant reported regional motivation to bring together research and practice e.g. through The Exchange (a University of Birmingham city-centre facility to stimulate community-focused research and engagement).

'I am really excited about the principal and physical manifestation of The Exchange, and what that could bring to this conversation' ID9-BCC

However, national policy and prioritisation were important decision drivers rather than evidence.

Power dynamics between different HEIs and domination by particular institutions created barriers to collaboration. While the NIHR was recognised as making efforts to build research activity in LAs, this was not always visible to LA staff. A further perceived barrier was the traditional NIHR focus on clinical studies which mismatched with LA work.

> *'If they [LA] talk about a very niche project, that's the type of thing that could well be criticised (by funders) for being niche and therefore not broadly generalizable...' ID1-NIHR*

> *'Certainly there's a desire within our service and within the regional service more broadly at a national level, to engage as effectively as possible with people who are less frequent fliers to our service.' ID1-NIHR*

COVID-19 impacted on capacity and prioritisation, but enabled rapid COVID-focused work.

Motivation

> ***'Motivation is defined as all those brain processes that energize and direct behaviour, not just goals and conscious decision-making. It includes habitual processes, emotional responding, as well as analytical decision-making.'***[23]

Perceptions/beliefs about research and evidence

Some LA staff were reported to have a tokenistic attitude to research. Variable value was reported to be attached to research and publication by BCC staff and cabinet members, although this was noted to be improving.

> *'The feeling I'm getting now and from what a couple of people have told me, is that Cabinet members in council are starting to understand a bit more about public health and they're actually seeing the publication of research as a positive thing in the council' ID20-NIHR*

Staff perceptions of the relevance, importance and impact of research influence their engagement. Whereas staff were previously motivated to use 'non-academic' evidence, robust, published academic evidence may now be seen as more relevant:

> *'I suppose at the moment we just assume that somebody that wants to do a piece of research goes off and does it so long as they've got the funding and the resource for it and support for it, without actually assessing in any way, shape or form, does it meet organisational objectives? is it valuable? has it been done before? do they need to do it, you know, is it something we can build on? …. will the outputs be made use of? You know, because that's one of the things we're not clear about, or not sure about, which is to what extent does where research is undertaken, how effectively are the outputs of that research then used to inform the decision making process?' ID8-BCC*

Perceptions/beliefs about research partners

Overall, staff appeared keen to collaborate with external partners, including HEIs, but fear of criticism about practice from researchers may impact on LA willingness to engage:

> *'I think going back to the perception of research as well, that wariness is a real barrier as well. So people that are saying, you know, 'we're really wary about this. We don't want you to come in because you'll audit us' and you know, I think genuinely people have a lot of anxiety around that, especially with care home research as well'. ID6-Academic*

Relationships and collaborations with HEIs were perceived as 'ad hoc and chaotic', with a perception that HEIs are 'impenetrable' and challenging to initiate collaborations. HEI participants made similar statements regarding LAs. The NIHR was also perceived as not always relevant or accessible to LA stakeholders.

> *'I find local authorities quite impenetrable…Quite often if I need to contact a local authority about something, I'm reliant on going to academics who know people in the teams…' ID5-NIHR*
>
> *'It's very, very difficult to navigate universities and find who the right person is' ID10-BCC*

Perceptions/beliefs regarding role of research in their work

While LA participants were interested in research, it was not mandatory for their role. Staff reported finding research, data and evidence useful to inform decisions, but rapid local consultation was also seen as 'evidence', taking strong motivation from local agendas to understand and engage with citizens, and research fits where it can support this agenda. Some suggested that research sometimes functions to justify changes being made, rather than objective evidence-gathering. For elected members, personal interest or local resident views may take precedence over evidence in decision-making, with a balancing act between citizen/councillor priorities and the evidence base.

An important challenge for LA and HEIs was the mismatch in timescales and expectations of collaboration, with LA focusing on short term, rapid solutions. It was suggested that successful research collaborations must deliver mutual benefit. LA stakeholders needed to be able to perceive tangible benefits, and had strongest motivation to engage in impact-focused collaborations which were relevant to their community and area of work.

> *'There's all this short-term thinking and rejigging and re-organisation. So even if you have a good idea it's difficult to get it implemented, because the people who are supposed to be implementing it might be disbanded or moved on as political whims change' ID14-Academic*

'One of the things that helps is that [the project] *is impact focused… it's about producing tangible outcomes that have a policy reference. So it's a bit of an easier sell in terms of people seeing a benefit in investing their time' ID18–Academic*

Wider interest in research

LA staff were interested in research and engaging with researchers.

I think that's why we work closely with the universities because like I said, we are not experts in everything but universities have got a bigger handle on some of the things and they are more kind of focused on the new things which are coming into the market, be it new technology or be it new innovation. ID26-BCC

Some saw value in using local data beyond its primary purpose to contribute to knowledge, and expressed interest in writing and publishing research. However, there were time barriers here:

'I just don't have time during my service work to reformat submissions to fit different journals. So I think that is a real barrier' ID22-BCC

Perceptions regarding what/who should be commissioned to deliver research

BCC has a track record of commissioning a wide range of research and evaluation. It was suggested that some organisations are engaged often, and there may be opportunity to diversify the range of collaborators. It was also suggested that pre-existing relationships might guide commissioning decisions rather than methodological expertise of external research providers. One respondent suggested that local authorities tend to be risk averse about commissioning:

It's about saying "well if we have a provider that's done an OK job before, we'd rather go with them, even if they didn't do a fantastic job, than go with the unknown quantity"' ID2-Academic

The same participant reported that methods for commissioned research are often pre-defined by BCC partly due to resource limitations, and this reduces opportunities to use researchers' methodological expertise.

'if you won't allow the researcher, who's an expert in that population, to guide you as to the best way to get data from the population, then you're sort of missing a trick' ID2-Academic

'There needs to be a more strategic approach to commissioning' ID16-BCC

SYNTHESIS OF QUALITATIVE AND QUANTITATIVE COMPONENTS

The findings from the survey were broadly convergent with the interviews and are discussed below.

DISCUSSION

Overview of findings

BCC staff reported more experience and confidence in using and interpreting evidence than undertaking primary research. Where there is capability to retrieve and synthesise research data, opportunities are impaired by lack of access to relevant data sources. The survey suggested that comparatively few BCC employees were trained in using research evidence or undertaking research directly. Those that had received training usually gained their skills before working at BCC. Survey responders reported strong engagement with using evidence and recognised the importance of using local/national/international research findings to underpin changes in local policy or practice. Our interviews highlighted the importance of local findings and ensuring relevance to local populations. Previous research into the use of evidence by English LAs has highlighted the important role of local experts in providing evidence and knowledge, and the high value placed on local evaluation evidence.[15,16] Other challenges to the use of evidence are poor access to good quality relevant research, and lack of timely research outputs;[21] both emerged from our research.

In terms of research skills, the qualitative results indicate some good research skills across the council, but variation in capability. BCC staff see the value and importance of research in a LA context and are motivated to engage with it. This is hampered by lack of time; lack of formal relationships with HEIs/partners to facilitate collaboration; training needs; lack of access to library facilities; political and personnel changes. Der Graaf has previously reported mismatched timescales, limited budgets and difficulties in identifying appropriate researchers as barriers identified by LA public health professionals to engaging with researchers.[9]

Strengths and limitations

This rapid research was undertaken during the second wave of the COVID-19 pandemic. We had fewer responses to our questionnaire than we hoped, so response bias is likely and findings cannot be considered generalisable across the LA. The interviews were undertaken with BCC members and officers across five directorates and with academics, people working in charities and the NIHR infrastructure, giving a broad picture of LA research activity.

Strengthening research capacity and capability

A range of solutions have been put forward to strengthen knowledge mobilisation in public health practice including embedded researchers,[12,13] honorary appointments, centres to bridge the gap (e.g. NIHR Applied Research Collaborations), research training for public health professionals and research funding that incentivises knowledge transfer.[14]

Optimal structure of local authority research system

Optimal structure of research system	**Current structure**	**Resource needs for operational research system**
Strategy and culture		
Corporate strategy for research Identification of priority areas for research	No current overarching research strategy	Facilitated development – allocated time and champion within the LA. External consultant?
Commitment to role of research and ethics within the LA	Need for ethics structures identified, but not currently in place	Time to get commitment / explicit statements into Constitution of the Council
LA culture that expects evidence to inform policy and decision making	Mixed	Incorporating reflection on extent to which evidence informed decisions/ actions within audits/reviews
LA culture that acknowledges the importance of evaluation	Mixed – limited by time and resource constraints	Resource for embedded researchers or secondments with local universities
Infrastructure and processes		
Functioning ethics and research governance system able to deliver proportionate review in timely manner	Not available, delayed due to COVID-19	Resource for person with appropriate skills to run this and for staff to support the activities within their job plans
Routinely collected data from LA activities and skills and resources to link these to monitor public health interventions, whilst ensuring data protection. Seeing data as an asset.	Rich data sources, but varied platforms Time poor	Dedicated time for linkage and analysis. Ensuring data entry is high quality through training.
Access to library services to a obtain literature on the wider public health	Access to medical literature via Athens	Funding for institutional access or links to HEI access
LA employees across LA directorates with skills to initiate or contribute to research activities	Clearly LA staff with appropriate skills, but training needs identified and insufficient time a barrier	Building training into job plan/ setting budget for research training
Research commissioning proportionate for the project and time frame	Commissioning processes in place, quite onerous	

Optimal structure of research system	Current structure	Resource needs for operational research system
Local research champions within the LA	No formal structure	Need for some protected time and formal link to HEIs
Awareness of opportunities to obtain external support for evaluation (PHIRST/SPHR) and NIHR infrastructure support – increased visibility	Minimal awareness	Formal links between NIHR infrastructure and council research lead/link
Resource for research	Limited, most available within public health	Ring fenced budgets for research. Partnerships with HEIs.
Training and development		
LA employees across LA directorates with skills to access, appraise and use research evidence	Currently strong within public health, less available across all other directorates	Training opportunities, access to online courses/training materials?
Academic skills in developing research questions, methods, analyses and write-up	Some skills in staff, not core to role, so reliant on individual rather than the post.	Training for range of skills: governance, technical, analytical skills. Embedded academics / joint appointments with HEIs / academic placements
Links with HEIs		
Ongoing close / embedded research relationships between LA and HEIs – formalised relationships?	Some exemplars, but ad hoc and reliant on academic having funded opportunity	Joint appointments; Embedded academics; Student placement / projects Need funding
Corporate knowledge of skills and specialisms of academics across the local HEIs to enable efficient requests for support or commissioning of research	Currently ad hoc and within directorates	Online research register of projects, skills and links?
HEI member on committees and boards to identify opportunities, question evidence etc?	Some exemplars, but ad hoc	Funding for formal links with HEIs with academics allocating dedicated time to work with BCC.
National links and opportunities		
Funding opportunities for LA initiated research	Low levels of awareness or capacity to apply	Named link for research in BBC to be alerted about relevant opportunities.

NEXT STEPS

This research has highlighted opportunities for developing mechanisms to enhance collaboration and embed a sustainable research system across Birmingham City Council.

From March 2021 these research findings will be shared more widely within the LA and the solutions that can be implemented without financial resource considered alongside those that would need financial commitment.

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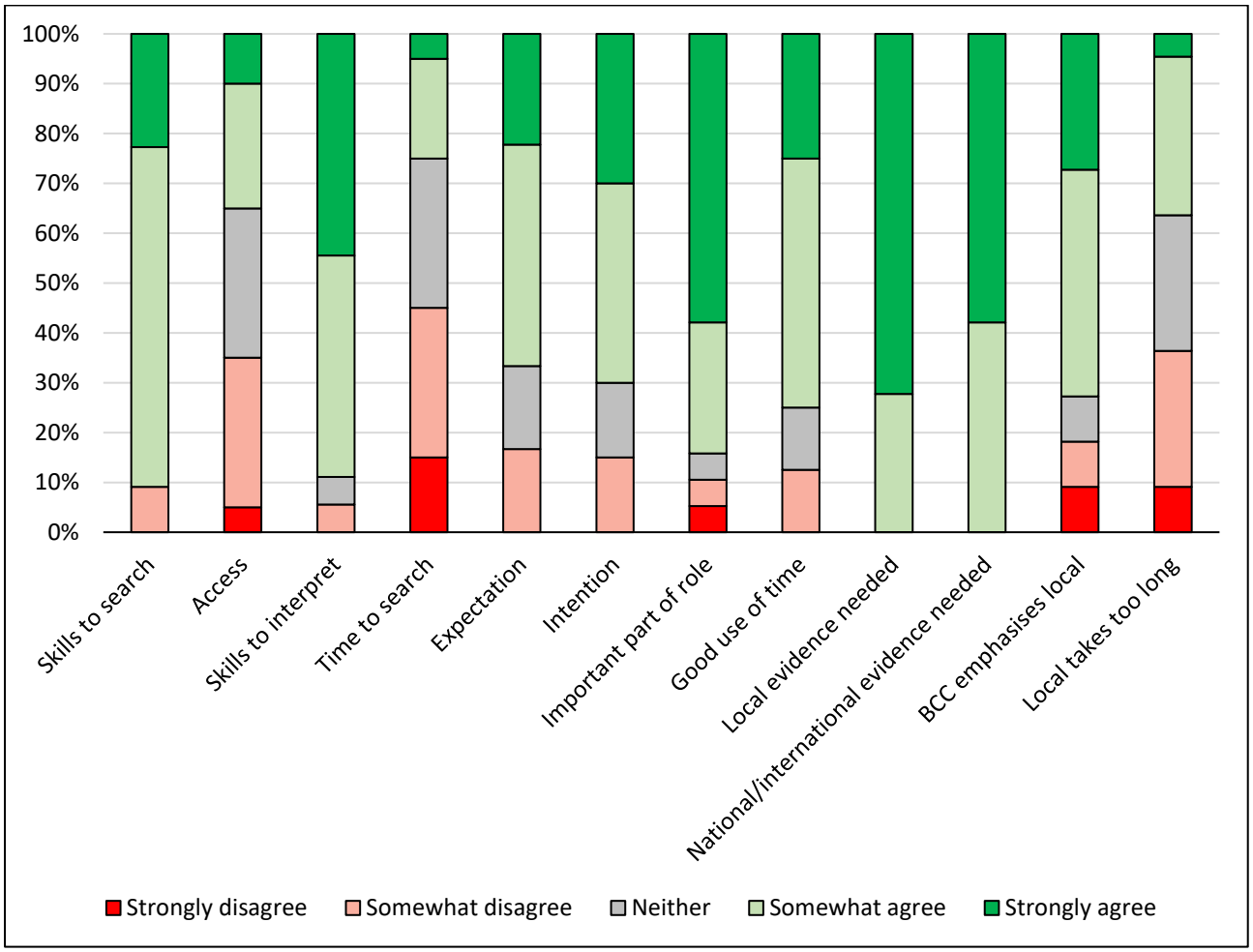
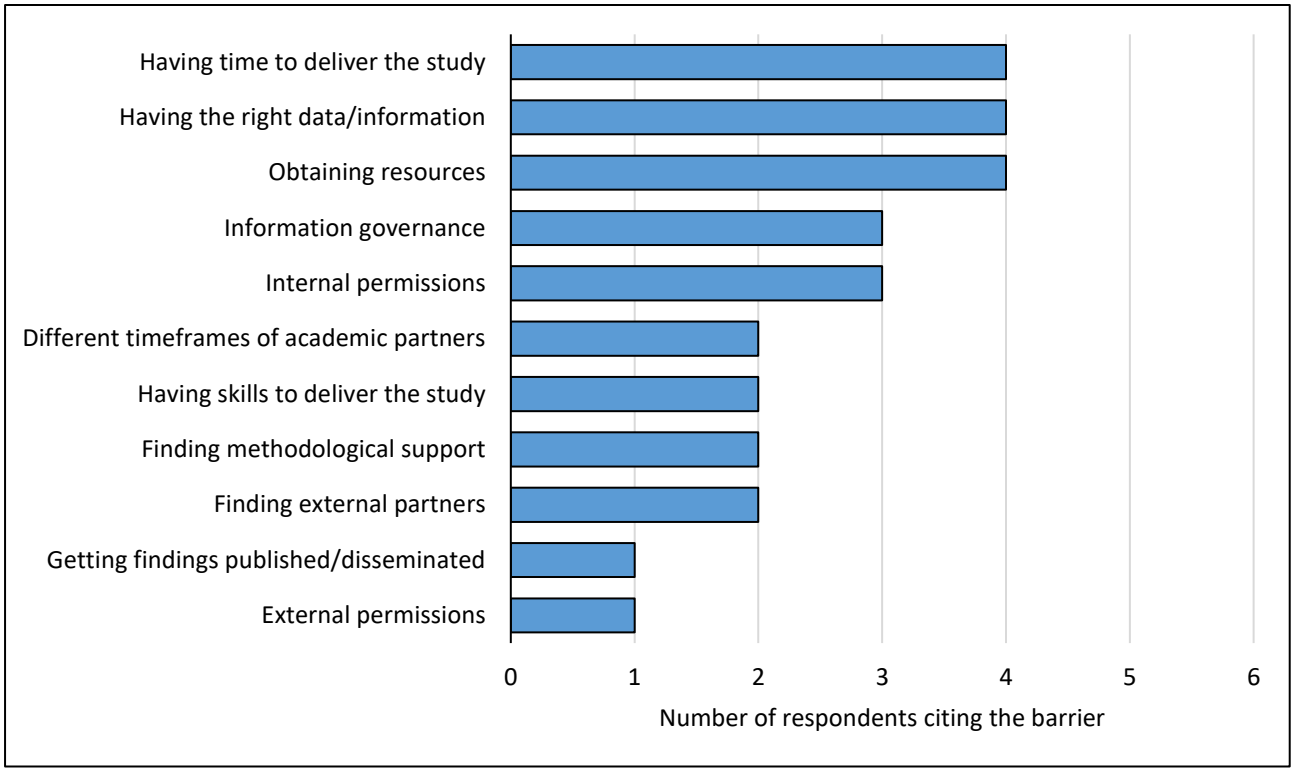
APPENDICES

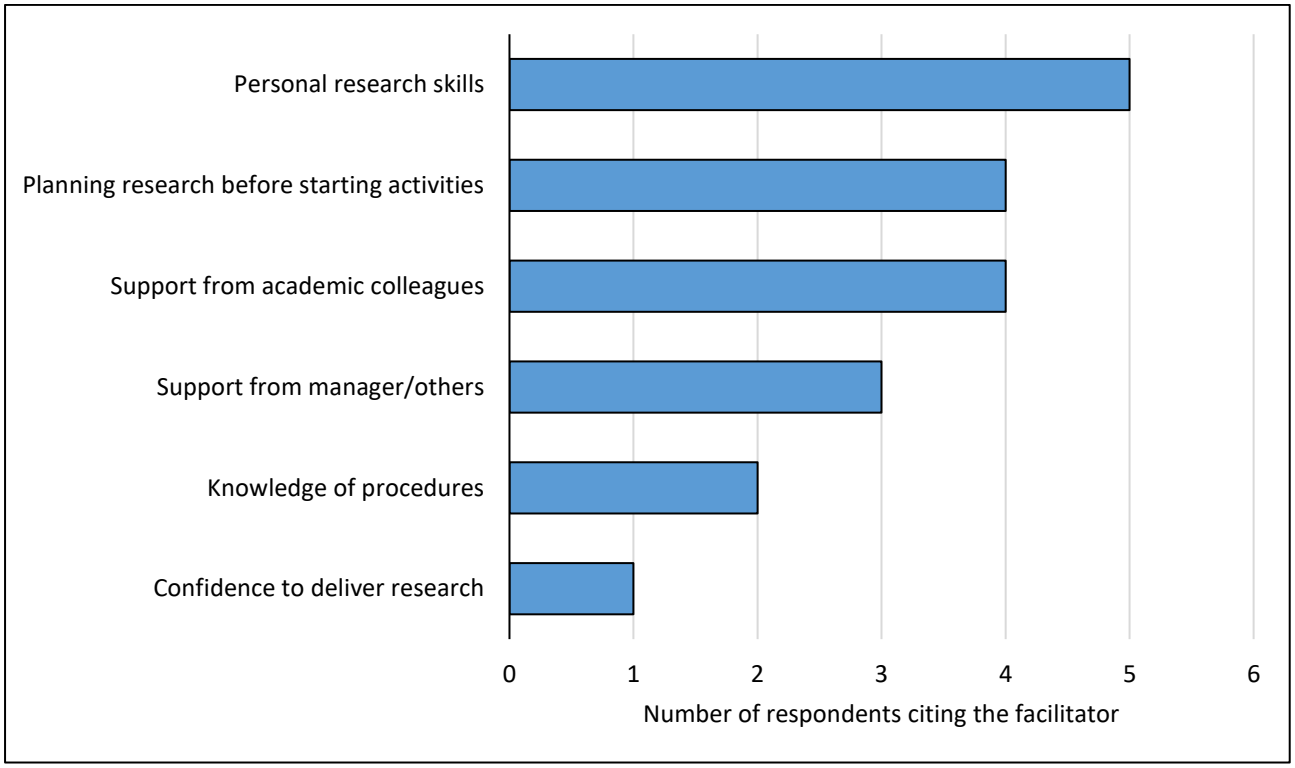
Appendix figure 1: Responses to statements about using research evidence



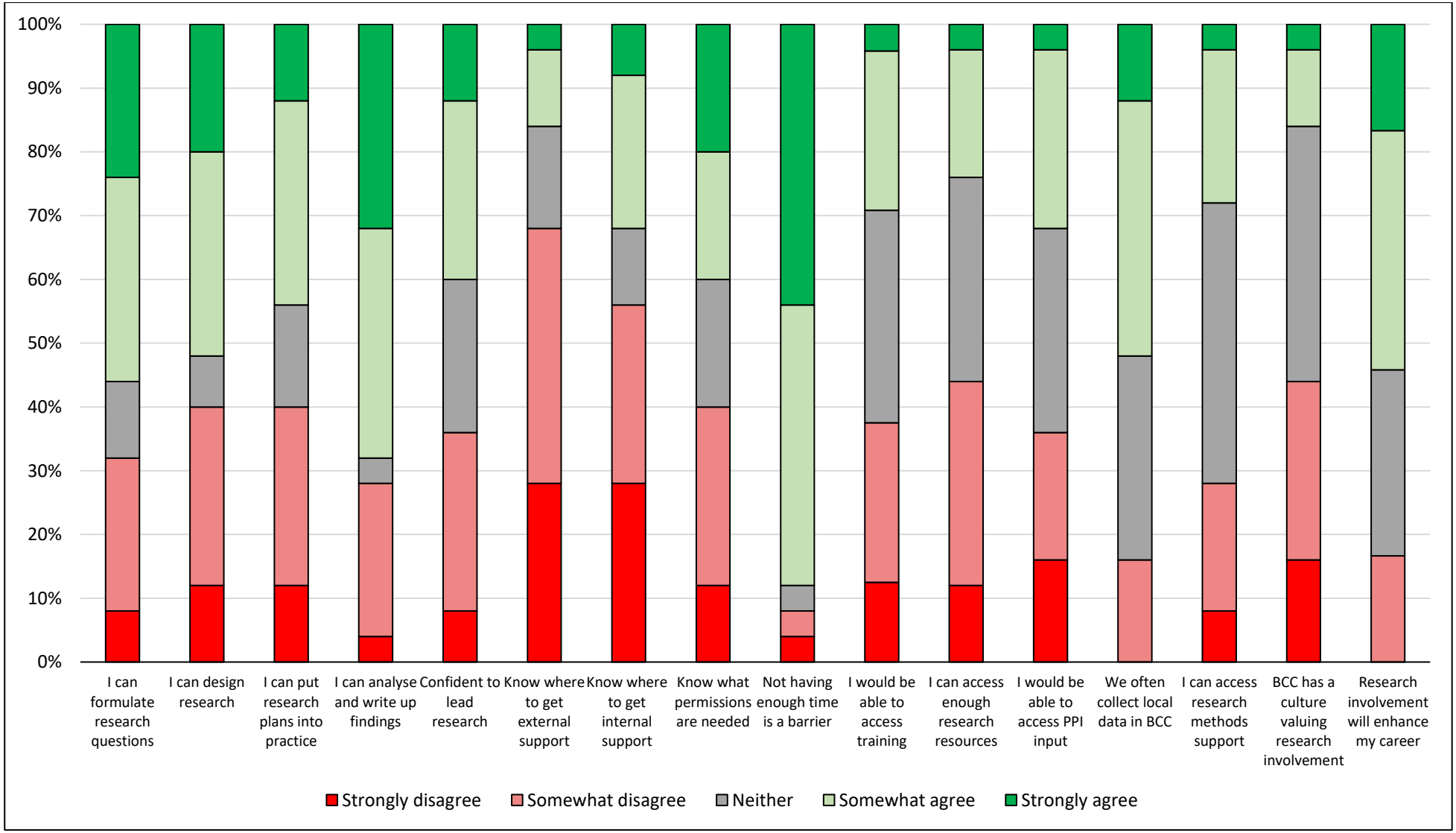
Appendix figure 2: Perceived barriers to undertaking internally-led research activities



Appendix figure 3: Perceived research facilitators for internally-led research activities



Appendix figure 4: Responses to statements regarding involvement in research activity



Appendix table 1: Knowledge of systems to facilitate research approvals

System	Yes (n, %)	No (n, %)	Don't know (n, %)
Ethical approvals*	7 (28.0)	3 (12.0)	15 (60.0)
Research governance*	9 (36.0)	2 (8.0)	14 (56.0)
GDPR compliance**	20 (83.3)	1 (4.2)	3 (12.5)

***** Percentages calculated on 25 respondents; ** percentages calculated on 24 respondents

Appendix table 2: Knowledge of national organisations available to support research activity

Organisation	Not aware (n, %)	Heard of it but don't know what it does (n, %)	Aware of it, know what it does but have not used it (n, %)	I have used this organisation to support research (n, %)
Research Design Service	21 (88.0)	1 (4.0)	2 (8.0)	0 (0.0)
Local clinical research network	16 (64.0)	5 (20.0)	4 (16.0)	0 (0.0)
INVOLVE / Centre for Engagement and Dissemination	19 (76.0)	4 (16.0)	2 (8.0)	0 (0.0)

Percentages calculated on 25 respondents