The Birmingham, RAND and Cambridge (BRACE) Rapid Evaluation Centre 2023-2028

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1. Introduction

The **B**irmingham, **R**AND **a**nd **C**ambridge Rapid **E**valuation Centre (BRACE) is funded by the NIHR to carry out rapid evaluations of promising innovations in the organisation and delivery of health and social care. Our vision for BRACE is to rapidly and rigorously co-produce and share relevant learning that responds to the needs of decision-makers and other stakeholders across health and care services to enable timely, evidence-based decisions about the uptake, implementation and spread of service innovations [1].

Our aim is to co-design, undertake and manage a portfolio of rapid evaluations that provide timely evidence and learning to health and care stakeholders about the implementation and operation of service innovations. We anticipate delivering a portfolio of ten evaluations over the five years from October 2023.

Service innovation is about developing, testing, implementing and, in time, scaling-up new ways of organising and delivering care with the aim of realising improvements in care structures, processes and outcomes [2,3]. Innovation is a socio-technical process[4]. The success of an innovation depends not only on its efficacy and cost, but is also inevitably related to its interactions with the broader adoption context and wider health system: the resources in place including the skills, capabilities and leadership that exist; motivations and incentives; organisational culture and readiness; information and evidence environments; relationships and networks; and user engagement and involvement[2,5]. Evaluation of service innovations requires recognition of this complexity and its influence on innovation development, implementation and scale-up. The innovation process is far from uniform or linear, and evaluation needs to be flexible and tailored to the stage of intervention development and implementation across different contexts[5].

This protocol explains how, informed by its learning from previous NIHR-funding, BRACE will continue to provide time-critical evidence by enhancing our effective partnership, developing our governance and decision-making structures, and applying and further developing our tried-and-tested processes for co-designing and delivering rapid evaluations.

2. Conceptual Framework: Rapid, Responsive, Relevant and Rigorous

Our approach to rapid evaluation is built on the 'four Rs' principles, as set out in more detail in the chapter that we wrote jointly with RSET for the NIHR methods collection[1].

2.1 Rapidity: more than being quick

BRACE has the skills and track record to scope, design, undertake and disseminate evaluations in a manner that is timely and appropriately rapid. Rapidity is more than undertaking traditional evaluations more quickly. Rather, it is a process of considered and pragmatic study design, methodological innovation and proportionate specification to deliver time-critical learning. This might include, for example, evaluating an intervention early in the innovation process; carrying out

evaluations within a short overall timescale; mobilising evaluations more quickly; or sharing learning through rapid formative feedback.

2.2 Responsiveness: engagement and collaboration

BRACE has the systems, procedures and resources in place to mobilise quickly, to scope and co-design evaluations and to form bespoke project teams that match skills and expertise to the topic in question, methodological requirements and the evidence needs of stakeholders. We know from experience that working in a highly responsive and collaborative manner helps identify and manage risks and promote a pragmatic evaluation design that maximises relevance to decision-makers and stakeholders. Our commitment to being responsive is reflected in how we engage and collaborate with stakeholders in an inclusive and meaningful way, as evidenced in the reports to NIHR HSDR of all the evaluations conducted in BRACE 2018-2023. Responsiveness will be enhanced in the next five years by the development of three focused Rapid Advisory Panels, an approach to more inclusive PPIE that will secure even more diverse and inclusive contributions, and a strengthened partnership with National Voices.

2.3 Relevance: co-production and engagement

We are committed to working closely with service users, carers, managers, clinicians, care professionals and other stakeholders to ensure our evaluations address the key questions and deliver the necessary learning. We place high value on the importance of co-production across all elements of our work. Our experience in BRACE 2018-2023 and elsewhere shows us that effective multiple-stakeholder engagement and co-production are key to ensuring our evaluations are relevant to the evidence needs of stakeholders. Our approach to co-production reflects the definition provided by the <u>Social Care Institute for Excellence:</u> "a relationship where professionals and citizens share power to plan and deliver support together, recognising that both have vital contributions to make in order to improve quality of life for people and communities."

2.4 Rigour: undertaking high quality evaluation research

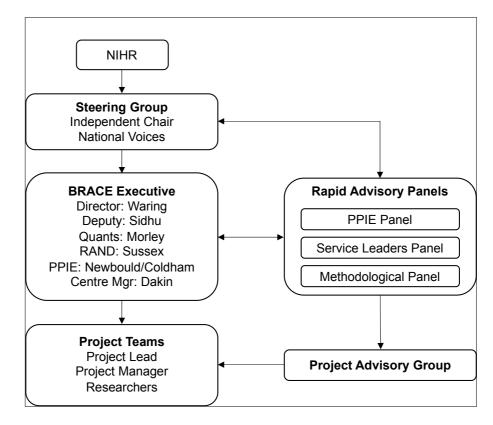
We ensure that all evaluations are theoretically and methodologically strong, producing credible evidence in diverse formats to support policy, planning, implementation and monitoring of innovations. Our ability to engage service user and community stakeholders, service leaders and professionals, and a range of methodological and evaluation experts ensures that we balance rapidity with rigour so that we respond to the needs of stakeholders and draw upon the most relevant high-quality methods and data sources with overarching quality assurance. As described below, our governance arranges and evaluation framework ensure that these group can contribute and ensure the rigour of the co-design and delivery of our evaluations.

3. Project Management and Governance

Over the course of the 2018-2023 BRACE contract, we have learnt much about the challenges of managing an effective rapid evaluation centre. This has included commissioning a mid-term review and convening an annual learning workshop for the whole BRACE evaluation team (around 25 people). We again commit to these learning activities led by our independent facilitator Cowan. This will explore what has been working well or less well, and will reflect on how BRACE is meeting its commitment to rapidity, responsiveness, relevance and rigour. The report of this review will inform the second phase of BRACE working. It will be a key resource for the BRACE Executive.

We will retain the same oversight arrangements currently used by BRACE, comprising a Steering Group and BRACE Executive for the overarching Centre and bespoke project teams, with advisory groups for individual evaluations. We will replace our large Health and Care Panel of over 50 stakeholders with three (smaller) distinct but complementary Rapid Advisory Panels to facilitate more responsive and dynamic and bespoke input to project scoping, analysis and dissemination. Our governance structure is summarised in Figure 1.





The Steering Group will provide overall supervision and oversight of BRACE. It will advise on strategic and operational plans, review timelines and deliverables, help to ensure the independence and robustness of our evaluations, and advise on dissemination strategies. In particular, the Steering Group will assess and assure the role of PPIE in BRACE and that full consideration of EDI is integral to all aspects of BRACE activity. The Steering Group will have diverse membership, including representatives from the University of Birmingham (sponsor), each of the Rapid Advisory Panels (Kirby, Smith, Newbould/Coldham), National Voices (Sweeney) and key leaders in research and evaluation with topic and methodological expertise. We propose retaining 30% of existing Steering Group members to support continuity of working, whilst working to refresh our membership with explicit attention to the importance of skill. The Steering Group will receive written and verbal reports from the BRACE Executive, the chair/s of each Rapid Advisory Panel, and where relevant request presentations from principal investigators/project leads of BRACE projects. Any recommendations or feedback from the Steering Group will be communicated through the BRACE Executive to the wider team. The Steering Group will meet every six months over the life of the contract, with one meeting in person per year and the other online. The PPIE advisory panel meeting will be convened in advance

of each Steering Group meeting to facilitate dialogue, feedback and recommendations to be shared at the Steering Group meeting by Newbould and Coldham.

The BRACE Executive is responsible for the overarching strategy and operational delivery of BRACE and will manage issues related to project delivery, financing, contracts, human resources, governance, and performance. As well as Waring (Director) and Sidhu (Deputy Director) it will involve Sussex (RAND Europe lead), Morley (quantitative lead), Newbould/Coldham (PPIE co-leads), and Dakin (Centre Manager). The Project Manager, Principal Investigators/Project Leads and Research Fellows will join the Executive Group on request to report on progress and to ensure continuity between senior and junior members of the team who may be working across several evaluations simultaneously. The Executive will meet monthly (four per year in person, eight online). It will play a key role in the initial scoping of each evaluation and deciding whether an evaluation will be taken forward and the constitution of the given Project Team. It will have a close working relationship with the three Rapid Advisory Panels to inform operational decisions, whereby members will be invited to report on and make recommendations in relation to the scoping and co-design work when necessary. The Executive will organise, with the assistance of Cowan, an annual learning workshop of the wider team of researchers and professional services staff active on BRACE evaluations during the year. We have run such workshops during BRACE 2018-2023 and they have proved to be valuable opportunities to build and sustain the BRACE team and learn from the experiences of all our researchers and staff.

Each of the three Rapid Advisory Panels (Figure 1) will have a designated Chair/s and each will have a core membership. Each Rapid Advisory Panel will have up to eight people recruited through: 1) our PPIE networks and with National Voices; 2) our research and methodological networks; and 3) our extensive networks with health and social care service leaders and partners. The core membership of each panel will be supported by an extended network from the wider BRACE partnership. The Panels will operate in a responsive way to provide time critical advice to the Executive and project teams, especially in the scoping and co-design phases of evaluations. It is anticipated that the Panels will work mainly virtually, and their input will be sought at key stages in the evaluation process. Each Panel will make recommendations about other stakeholders with relevant expertise thereby facilitating access to additional expertise and inform the constitution of the bespoke project advisory group for each evaluation. Each Panel will review working practices and membership on an annual basis. In line with our evaluation approach, they will meet on an 'on-demand' basis being responsive to the requirements and timescales of each evaluation, with the expectation of meeting between two and four meetings per year. They will operate primarily as virtual advisory groups. In addition, the PPIE Rapid Advisory Panel will meet twice a year online in advance of the Steering Group meetings.

For each BRACE evaluation, we will form a dedicated Project Team as part of the preliminary scoping stage, informed by guidance from the Rapid Advisory Panels (Figure 1). Each Project Team will be led by an experienced principal investigator drawn from the BRACE partnership and will involve subject and methodological specialists and a PPIE lead. Each Project Team will be supported by the appointed project manager (and relevant BRACE researchers). It is anticipated that Project Teams will meet weekly (online) to plan out and review progress, reporting to the Executive on a monthly basis.

Building on the approach taken in BRACE 2018-2023, each Project Team will have a small, bespoke Project Advisory Group with strong PPIE representation, formed with the guidance of the Rapid

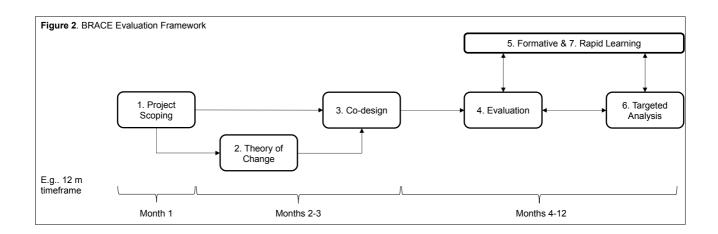
Advisory Panels. The project advisory group will play a key role in the co-design and co-production of research. Reflecting the specific service context, each group will include a service partner representative or sponsor (identified by the Service Leaders Rapid Advisory Panel), relevant methodologists (identified by the Methodological Rapid Advisory Panel) and strong representation of service users and PPIE partners (identified by the PPIE Rapid Advisory Panel).

4. Approach to Evaluation Design and Methods

Since 2018, BRACE has fine-tuned its capabilities in rapid evaluation methodologies, been responsive to the needs to decision-makers and stakeholders, and adapted to the changing context of carrying out evaluations, not least during the COVID-19 pandemic. Our portfolio of evaluations has produced timely learning, shared through a diverse and extensive range of outputs to meet the needs of different audiences. We have a proven track record of delivering evaluations that vary by topic and methodology, within rapid timescales, either independently or in collaboration with external partners (including other NIHR rapid evaluation or policy research centres), and meeting NIHR Journals Library standards of reporting and dissemination. We have produced extensive learning about the practice of rapid evaluation, summed up in the five overarching lessons [1]:

- Scoping is critical to success and should not be rushed.
- Be transparent about uncertainty and limitations.
- Harness the benefits of a team-based approach.
- Build rapid evaluation skills and expertise.
- Consider what it means to be rapid across all stages of the evaluation process.

Based on our past learning we have developed a seven-step framework for rapid evaluation, from preliminary scoping and co-design with stakeholders, through to undertaking the evaluation and analysing data, and then identifying and rapidly sharing learning (Figure 2). We recognise, however, the importance of flexibility in our approach and the need to respond to changing circumstances, and so each stage involves close engagement with stakeholders to ensure adaptation to their specific needs. In particular, getting the initial scoping and co-design steps right is key to ensuring a successful, rapid evaluation. A 12-month evaluation might dedicate one month to preliminary scoping and feasibility testing, followed by 2-3 months working co-designing the evaluation, and then a 6-9 month period of data collection and analysis to deliver formative and summative learning.



Step 1: Scoping and feasibility appraisal

On receiving a request to undertake a rapid evaluation, we will initiate our topic scoping and feasibility appraisal. We will rapidly explore whether the proposed evaluation is feasible (including in the current context of NHS and social care pressures), timely and capable of delivering learning, identifying the stakeholder groups with whom we should collaborate in the evaluation. Informed by Craig and Campbell's model of evaluation assessment[6], we will: i) consult with NIHR and key service leaders to determine the precise need, focus and deliverables; ii) consult with intervention 'developers' and frontline service partners to specify the innovation, evidence base and, if deemed necessary, a theory of change; iii) consult with people with lived experience and service providers via our PPIE and Service Leaders Rapid Advisory Panels; and, where needed, iv) carry out a rapid evidence review, supported by the HSMC Knowledge and Evidence Service. As part of the scoping work, we will consider how the innovation has been devised with respect to inclusion and what impact it might have on health and care inequalities in terms of, for example, access, use and outcomes. We will then factor this into our scoping and subsequent co-design work, e.g. with targeted data collection to evidence the implications for inclusion. The preliminary findings from this scoping work will be reviewed with the three Rapid Advisory Panels to advise on the feasibility and recommended design of an evaluation. Based upon the learning from the previous BRACE, the panels will consider the scoping feasibility questions set out in Box 1.

Box 1. Scoping feasibility questions

- Is the focus clear: is the intervention sufficiently well defined, for example in terms of its aims and how these are expected to be achieved?
- Is the purpose clear: what is the main purpose of the study? What questions do stakeholders want the evaluation to answer?
- Is there an evidence gap: what is already known about the intervention or service in question; are there other evaluations planned or under way, and what is their focus?
- Evaluability: is the intervention or service ready to be evaluated? Where an outcome evaluation is proposed, has sufficient time passed for desired outcomes to appear?
- Stakeholder engagement: who are the main stakeholders and how will they contribute to the delivery of the evaluation, what are the equality, diversity and inclusion (EDI) considerations?
- Evaluation feasibility: can sites, participants and data be accessed in time? What data are already collected and available? Might other challenges arise, and could they be mitigated?
- Evaluation utility and timing: will the findings be used and how? When and how should findings be shared to maximise their usefulness?
- Scale-up and spread: is there potential and value in the innovation being transferred to other organisations beyond the innovation sites?

Liaising with the NIHR HSDR Secretariat, the scoping appraisal will be completed swiftly to determine whether a proposed evaluation should proceed. Our approach to scoping is not focused on a binary 'go/stop' decision but rather on determining what would be feasible within the constraints of the time and resources committed to an evaluation. Guided by our three Rapid Advisory Panels this may involve, for example, recommending an evaluation proceed with a particular design, prioritising engagement with some stakeholders over others, or that some or all parts of an evaluation do not proceed because, for example, they are not feasible. We then summarise this in a 'topic specification form' which is submitted to and reviewed by NIHR HSDR, who then either approves proceeding to production of a full protocol or requests changes to the project – or decides not to proceed further. Once we have NIHR HSDR's agreement to the approach set out in the topic specification form, we develop this into a full protocol for review by NIHR HSDR, who may then request changes and who ultimately makes the go/stop decision.

Where it is recommended that an evaluation not be taken forward based upon the feasibility questions set out in Box 1, a concise report (document or slide deck) will be shared with NIHR HSDR and system stakeholders providing a clear rationale for the decision and suggestions for what other forms of research or monitoring may be relevant. Any such recommendation will also be subject to further discussion with the NIHR HSDR Secretariat, including the possibility of alternative approaches to or foci for evaluation. Where an evaluation is not taken forward, the scoping work will still provide important learning for innovators and service leaders, about the existing evidence base, conditions to support future evaluation or refining the theory of change. Where an evaluation is feasible, the dedicated Project Team and corresponding Project Advisory Group (see Figure 2) will be formed to take forward the co-design and evaluation process.

Step 2: Understanding the Theory of Change

Theory-based evaluation is especially useful in rapid evaluations for supporting targeted project planning, data collection and analysis[7,8]. As part of the scoping working, any existing theory of change and implementation framework will be reviewed to inform evaluation co-design. Where a theory of change has not been developed, we will work with the project team to consider the value of allocating time to this, and where required, support the development of a preliminary theory through a facilitated workshop with stakeholders, using tools such as action-effect diagrams or logic models[9,10]. Where it is not feasible to produce a Theory of Change in advance, we will explore with stakeholders whether the production of one would be a desirable outcome of an evaluation.

Step 3: Co-design

BRACE is committed to co-designing its evaluations in collaboration with service providers, users, carers, leaders and other community stakeholders and to the highest methodological standards. Drawing on the learning from Steps 1 and 2, the bespoke Project Team and Project Advisory Group (see Figure 1) will facilitate a co-design workshop with key stakeholders and PPIE representatives (online or in-person depending on the innovation, and time constraints), identified by our Rapid Advisory Panels. Taking a 'reverse logic' approach by starting with the end-goals to reduce time delays [11], these will address the following questions while keeping the need for EDI actively in consideration:

- What would a successful evaluation look like to different stakeholders?
- What are the early learned needs?
- Who can help translate, communicate and broker evidence between stakeholders?
- What data are already available and accessible, and what new data should be collected?
- What are the appropriate methodological and analytical approaches?
- Who should lead and participate in data collection and analysis?
- Who are the key sponsors and facilitators?
- What is the timeline and critical stages?
- What is the schedule of meetings and project management?

We will give particular consideration to the views of patient and public groups and to EDI implications as well as drawing on our Methodological Rapid Advisory Panel. This co-design process is integral to

ensuring stakeholder engagement and will inform the dissemination and impact strategy of each evaluation. The outcomes of Steps 1-3 will together inform the production of a detailed study protocol, which we will submit to NIHR HSDR for approval before progressing to Step 4.

Step 4: The rapid evaluation: management and methods

Following NIHR HSDR approval of the protocol (and any required revisions), the project team will initiate and undertake the rapid evaluation. Each study will differ in its focus, purpose, design, and stakeholder involvement, but will have common elements to ensure rapidity, rigour, relevance and robustness:

- a) Project management: Each evaluation will have an experienced project team with senior leadership and dedicated project management support. The team will develop and adhere to a clear timeline specifying the critical steps and key deliverables. This will be reviewed in weekly virtual project meetings, some of which will include the project advisory group. Each team will report to the BRACE Executive on a monthly basis, provide updates to the Steering Group for its six-monthly meetings, and provide updates to NIHR, via the centre's six-monthly progress reports and on request. (See Section 5 for more detail)
- b) **Design and ethical review**: Each evaluation will be checked against Health Research Authority (HRA) ethical review requirements and be subject to independent review by the Head of Research Governance and Integrity within the University of Birmingham Research Governance Team who will determine whether projects are evaluations or research. Any use of administrative data will be subject to the usual approvals process for the relevant data source(s).
- c) **Engagement, access and recruitment**: Stakeholder engagement is critical to the success of each evaluation, especially during co-design (Step 3) and in gaining access to service sites. Through our PPIE Rapid Advisory Panel we will identify key facilitators within care services and community champions to support ongoing engagement with stakeholder groups.
- d) **Data collection and analysis**: BRACE has extensive experience of working with both wellestablished and novel evaluation methods. In the co-design stage (Step 3), we will configure the optimal combination of methods to enable rapid and rigorous data collection and analysis for delivery in Step 4, drawn from options including:
 - Rapid scoping evidence reviews
 - Documentary analysis
 - Quantitative analysis of routine service data and local data collected by those implementing the intervention or the research team
 - Economic analysis and cost modelling
 - Surveys, choice experiments, Delphi
 - Rapid community engagement
 - Qualitative interviews and focus groups
 - Semi-structured real-time observations rapid ethnography
 - Intervention blueprinting and process mapping

We will, where appropriate to an evaluation, also draw on the specialist online evaluation capabilities provided by THISLabs and their Thiscovery platform We anticipate a particularly important role for Thiscovery in scoping the views of key stakeholders in the early stages of projects, sense-checking findings and obtaining views on feasibility of recommendations and implications for implementation. We recognise that online methods can potential exclude those without access to relevant technological, where other health and life circumstances impact the ability to participate in research or where there are other cultural barriers to participation. As

outlined below (see Section 7 on Our Commitment to Equality, Diversity and Inclusion), digital exclusion will be explicitly foregrounded in all our evaluations. In the scoping and co-design stages of each evaluation, we will explicitly consider whether digital exclusion would be likely to bias findings, e.g., if excluded groups are disproportionately in need of the services being evaluated or may have significantly different experiences/outcomes. If such bias appears probable, we will design non-digital alternatives in order to reach the populations who would otherwise be excluded. We recognise, however, that Thiscovery makes participation in evaluation highly accessible and inclusive to some groups that might be marginalised in more traditional methods and can harness the expertise of specific communities [12] [13]. We can also adapt online methods to facilitate research participation for groups that have other employment or domestic commitments or mobility issues, for example, surveys can be completed at a wide range of times.

Step 5: Identification of formative learning

BRACE evaluations are designed to ensure the rapid production and dissemination of evidence to decision-makers and other stakeholders. We particularly emphasise the ongoing identification and communication of formative learning.

Step 6: Targeted analysis

We will deliver timely evidence and learning by integrating data analysis alongside data collection, so that early findings inform formative learning and ongoing data collection. A key part of our analytical approach is to identify evidence needs as specified by stakeholders that can be subject to rapid deliberation and testing by the project advisory group and, where appropriate, our extended stakeholder networks. This is where the identification or development of a theory of change is especially useful for specifying the assumed contextual factors and mechanisms that are to produce change (see Step 2). We will use established analytical frameworks to efficiently structure analysis, such as framework analysis [26–28]. This will include integration of data across evaluations. If both quantitative and qualitative data have been analysed, we will use triangulation and a mixed method matrix to integrate information[29]. We will consider anticipated versus actual implementation outcomes, focusing on adoptability, readiness for implementation, and sustainability and we will also seek to identify possible unintended consequences [30,31].

We anticipate that, where relevant to the innovation and context, our evaluations will have three additional lines of targeted analysis. The first reflects our commitment to consider the EDI implications of both service innovations and our evaluations. Learning from the experiences of NIHR ARC East Midlands, we will utilise frameworks that assist our EDI appraisal service innovations, especially the impact on disparities in access, care and outcomes. The second line of targeted analysis will pay particular attention to the sustainability and environmental impact of innovation which might include, for example, the waste and by-products of innovation, the extent to which existing resources are repurposed and recycled, and the anticipated energy consequences of innovations. Here we will draw on experts in the University of Birmingham's <u>Energy Institute</u> to co-design an assessment framework in line with the <u>NHS Greener plan</u> and global targets for net zero, to be used with relevant innovation. The third line of targeted analysis will consider the implications for the health and care workforce and whether innovations affect demands on staff in terms of new or extended roles, time and workload commitments, and their physical and emotional wellbeing, given all that is known about current and projected workforce scarcity and pressures.

The NIHR Birmingham, RAND and Cambridge (BRACE) Rapid Evaluation Centre Protocol v1.2 (30/11/23)

Step 7: Rapid knowledge sharing, dissemination and impact

Our approach to knowledge sharing and creating impact has been shaped by our experiences during BRACE 2018-2023, as well as partners' and team members' extensive wider portfolio of service evaluation work. As a minimum, each BRACE evaluation will deliver: i) preliminary (formative) reporting as agreed with stakeholders; ii) a final report (a full NIHR monograph or synopsis report, working with the NIHR Journals Library to create advanced online publication citations); iii) a public/patient focused 'what I need to know' pamphlet, infographic or online resource designed with PPIE partners; and iv) infographics and/or other resources relevant to service leaders. We will also produce high quality academic outputs in leading journals and lay articles and blogs targeted at service leaders, practitioners, patients and the public. Based on our experience, our knowledge-sharing and strategy is underpinned by the following principles.

Timely sharing of **emerging and interim findings**: the uptake and impact of evaluation findings is as strongly shaped by when these are shared as by what is shared, and timeliness is critical. Projects will provide ongoing and formative feedback, aligned – wherever possible – with key decision points for evidence users to maximise their relevance and applicability. Rapid feedback loops will be formally built into study designs, with an explicit commitment to report on progress and insights at regular intervals (e.g. through meetings or short written updates). This will include easily digestible formats such as slide sets, question and answer formats, briefing papers, infographics and other visual methods of data presentation, all of which we have used effectively in previous BRACE studies.

Influencing through **engagement and dialogue**: early and ongoing relationship building with stakeholders and evidence users at all levels will help ensure that our findings are delivered to engaged and receptive audiences. This process starts with study scoping and co-design, so the evidence needs of stakeholders feed into and inform our evaluations. Rapid knowledge transfer will be facilitated through planned activities including one-to-one and small group briefings, interactive workshops and webinars, and targeted presentations for key stakeholder groups, to facilitate learning and dialogue. Regular and ongoing interactions with multiple stakeholders including policy makers, service leaders, third sector and service users/carers will facilitate opportunistic sharing of findings to support real-time learning and time-critical decisions.

Tailored, accessible and co-produced outputs: Our outputs will be designed in collaboration with evidence users, including our expert Rapid Advisory Panels, so that they meet real world needs, and are engaging and appealing. Each evaluation will culminate in a formal written monograph or synopsis report for NIHR Journals Library, typically accompanied by a suite of other outputs including an infographic prepared by the RAND Europe communications specialists summarising key findings. We will actively promote outputs through web distribution (including via our dedicated BRACE website); BRACE, partner and third-party newsletters (e.g. NHS Networks weekly news, Health Services Research UK monthly update newsletter); press releases and local and national media relations work; and targeted social media campaigns (e.g. X (formerly Twitter), LinkedIn and Instagram).

Translating evaluation findings into usable learning to support rapid uptake of evidence: evidence users, at all levels, may need support to understand the implications of evaluation findings for service or programme delivery, and how findings can be used in practice to improve implementation, outcomes and/or sustainability. We will work closely with stakeholder groups and our Rapid Advisory Panels to identify, frame and communicate the learning and key messages from our evaluations (to

answer the 'so what?' question). First, where appropriate, we will make use of the Thiscovery platform to rapidly sense-check findings with key audiences and orchestrate input from stakeholders to ensure that learning resonates with, and is actionable in, the real-world experience of managers and clinicians, for example through prioritisation methods. Second, where appropriate, we will produce an implementation guide for each evaluation offering user-friendly learning about how innovations can be adopted beyond study sites.

Advancing learning about rapid evaluation methodology: we will continue our commitment to sharing methodological learning in rapid evaluation. BRACE contributes actively to a growing rapid evaluation community, working collaboratively with other NIHR funded centres.

5. Research Governance and Ethics

As part our preliminary scoping and co-design activities, all evaluations undergo ethical and research governance review. We have in place a fast-track review process with the University of Birmingham Research Governance Team, established for the BRACE 2018-2023 contract, whereby our Head of Research Governance and Integrity ascertains rapidly whether studies are services evaluations or research. Once decided, all project teams will seek relevant approval from the University's Arts and Humanities Research Ethics Committee, and from HRA if required. This fast-track process means that ethical approval can be secured in 2-3 weeks. For HRA approvals and local research governance clearance, there can be delays and, as BRACE ethics lead, Sidhu will support project leads in negotiating approvals, flagging concerns to NIHR HSDR if needed. For data management and information governance, partner organisations have in place robust arrangements and institutional policies for storing, managing and sharing data; all operate Information Security Policies aligned with ISO 27001 and adopt best practice under the Data Protection Act 1998. Research teams will receive and store data from a variety of sources, which will be stored according to data type and sensitivity. Data collected by the research team will be held on secure, encrypted servers and data from a particular evaluation will only be accessible to BRACE staff and those needing to conduct data audits. Transfer of data will be completed via secure (encrypted) methods.

Sponsorship: The University of Birmingham will act as the main sponsor and guarantor for all studies.

Indemnity and insurance: The University of Birmingham holds the relevant insurance cover for this centre, as confirmed via our BRACE contract with NIHR.

6. Patient and Public Involvement and Engagement (PPIE)

Integrated involvement of service users, carers and communities is critical to ensuring that our evaluations address the issues and evidence gaps, and focus on the outcomes, that are most important to people who use health and care services. Our team has much expertise in participatory evaluation and co-production, having learned from the 2018-2023 BRACE contract about how to balance rapid work with meaningful PPIE. It has extensive links with service user, carer and community groups, national patient charities and voluntary sector organisations via National Voices, and with PPIE leads and public members of several NIHR-funded centres, regionally and nationally.

Our approach to PPIE has been designed to align with the <u>UK Standards for Public Involvement</u>: inclusive opportunities, working together, support and learning, communications, impact and

governance. Informed by these standards, our approach will exemplify meaningful partnership at every level of BRACE's governance and project delivery:

- We will ensure PPIE input into senior advisory input to BRACE's overall strategy on community and service user engagement.
- A PPIE Rapid Advisory Panel made up of 12-15 people will advise across BRACE activities. We will
 continue to work with service users/carers and communities with lived experience relevant to
 the topic during the co-design stage of each evaluation and in exploring findings, shaping
 implications and planning dissemination. The Panel will comprise people with a diversity of
 backgrounds, perspectives and skills guided by the aim to maximise equality, diversity and
 inclusion, and we will draw on the <u>NIHR Research Design Service EDI Toolkit: Public Involvement</u>.
- Each project will have a dedicated Project Advisory Group, with strong PPIE representation of 3-6 people. Project-specific PPIE will be recruited with advice from our PPIE Rapid Advisory Panel, National Voices and our networks. Involvement activities will be tailored for each project (including for example co-design workshops, online regular meetings, engaging with member networks, developing bespoke project dissemination strategies with service users in mind), taking account of factors such as topic, evaluation aims and methods, and timescales.

7. Our Commitment to Equality, Diversity and Inclusion (EDI)

We recognise that innovations in health and care services, and the evaluation of these innovations, can have significant implications for EDI. For example, an innovation aimed at improving service outcomes might inadvertently reduce access or outcomes for certain groups. We are also aware that innovations might not always be developed with sufficient inclusion of diverse perspectives or with lack of consideration of their impact of on health disparities. The same can also be said of rapid evaluations with the need to mobilise and learn quickly which could risk oversight of EDI considerations. To better foreground and systematise EDI in all aspects of BRACE, we will convene a one-day open forum for all elements of BRACE governance within the first three months to explore what EDI means in the context of both service innovation and rapid evaluation, and for BRACE ways of working. We will also engage with other NIHR-supported centres to share best practice, specifically the Centre for Ethnic Health Research and NIHR ARC East Midlands who have developed an Equality Impact Assessment Toolkit and cultural competency training. We will draw on their expertise to develop a BRACE framework to guide systematic consideration of how both innovations and our evaluations take into account discrimination and bias, inclusion especially amongst marginalised groups, and impact on social and health equalities. Questions of EDI will be explicitly foregrounded in all our evaluations, paying heed to PPIE input and with particular emphasis in the scoping and codesign phase and in the development of formative and summative findings.

We will adopt the following approach when engaging with service users and carers, and with respect to, for example, age, ethnicity, disability and socioeconomic background:

1. Offer opportunities for data collection to be done online (via Thiscovery) or in person at a wide range of times (outside conventional 9am to 5pm working hours) and locations which might be better suited to those who are employed and/or have mobility issues;

- 2. The need to build relationships so members from under-represented communities can work across a range of rapid evaluations, and our partnership with National Voices will support identification and access to such networks and communities;
- 3. Ensure dissemination plans are co-designed with members from diverse groups via representative organisations that are part of and external to National Voices member networks;
- 4. To ensure those from diverse groups are remunerated appropriately (using NIHR rates) for their time and contribution, and paid in a timely fashion;
- 5. Ensure parity of dialogue to address issues of power differentials as part of any engagement with diverse groups and take time to work in non-judgmental ways e.g. holding meetings away from the University of Birmingham.

8. The BRACE Research Team

Since 2018 BRACE has developed and used an approach to co-designing and delivering rapid evaluations that are rigorous in quality, responsive to stakeholders' needs and provide evidence to inform time-critical decision-making. We will continue our highly successful partnership between the University of Birmingham, RAND Europe and the University of Cambridge, and our longstanding collaborations with National Voices, Richard Kirby (Birmingham Community Healthcare NHS Foundation Trust) and Katherine Cowan (independent facilitator). Each partner brings specialist expertise that we have melded into an inclusive and equitable partnership that embodies the values of mutual respect, trust, creativity, pragmatism, open communication and reflective learning.

We will work closely with National Voices, who will facilitate access to their network of over 200 community and voluntary groups, and contribute to co-design and dissemination activities. University of Cambridge THIS Institute offers additional methodological expertise and its novel Thiscovery online research platform. We will also enhance our scope to evaluate innovations within and at the interface of social care services by building on our institutional connections with the ESRC Centre for Care and the NIHR School of Social Care Research.

The BRACE team comprises the following organisations and senior researchers.

The **Health Services Management Centre** (HSMC) has world-leading expertise in the organisation and management of care services and is a collaborator in multiple infrastructure initiatives, e.g., NIHR School for Social Care Research, ESRC Centre for Care, West Midlands NIHR Applied Research Collaboration and the ESRC/Health Foundation IMPACT Centre. It benefits from an in-house Knowledge and Evidence Service (KES) which has expert health librarians and undertakes rapid reviews of policy, research and practitioner literature. HSMC is embedded within the University of Birmingham's research infrastructure, which includes its Medical School, Department of Social Work and Social Care, Institute for Mental Health and Institute of Applied Health Research, that together offer extensive expertise in health economics, health psychology, epidemiology, social care and public health.

RAND Europe is a not-for-profit research organisation bringing expertise in healthcare innovation and improvement, health economics, and quantitative and qualitative methods, along with an extensive track record of evaluations in health and social care and the wider public sector. Its researchers contributed to all the rapid evaluations undertaken by BRACE (2018-2023). RAND Europe's organisational and staffing model of flexible resourcing by permanently employed researchers and communications specialists has proved to be ideally suited to rapid response, allowing swift deployment of skilled staff with relevant expertise and subject knowledge.

THIS Institute at the University of Cambridge is funded by the Health Foundation and has established a reputation in high-quality, mixed-methods, multidisciplinary research and evaluations. It will provide methodological expertise into evaluation design and management. **THIS Labs** is a purpose-led business created through a strategic partnership between the Health Foundation and The Healthcare Improvement Studies Institute (THIS Institute). It works with organisations across the UK using our online platform, Thiscovery, to enable large numbers of people who use, work in, manage, and study the health and care system to have meaningful involvement in improving services.

National Voices is the leading coalition of health and social care charities in England, with more than 200 member organisations covering a diverse range of health conditions and communities. National Voices will have a key strategic role for BRACE to ensure the views of relevant communities are reflected across our work, especially by facilitating rapid access to diverse service user and carer perspectives around specific innovations or service areas, and supporting the dissemination of learning to relevant communities and audiences.

References

1. Smith J., Ellins J, Sherlaw-Johnson C *et al. Rapid Evaluations of Service Innovations in Health and Social Care: Key Considerations.* Southampton, 2023.

2. Rogers E. Diffusion of Innovations. 5th ed. New York: Free Press, 2003.

3. Gustafsson A, Snyder H, Witell L. Service Innovation: A New Conceptualization and Path Forward. *J Serv Res* 2020;**23**:111–5.

Marjanovic S, Altenhofer M, Hocking L *et al.* Innovating for improved healthcare: Sociotechnical and innovation systems perspectives and lessons from the NHS. *Sci Public Policy* 2020;**47**:283–97.
 Van de Ven A, Polley D, Garud R *et al. The Innovation Journey*. Oxford: Oxford University Press, 2008.

6. Craig P, Campbell M. Evaluability Assessment: A Systematic Approach to Deciding Whether and How to Evaluate Programmes and Policies. 2015.

7. Weiss CH. Theory-based evaluation: Past, present, and future. *New Dir Eval* 1997;**1997**:41–55. 8. Davies P, Walker AE, Grimshaw JM. A systematic review of the use of theory in the design of guideline dissemination and implementation strategies and interpretation of the results of rigorous evaluations. *Implement Sci* 2010;**5**:14–14.

9. McLaughlin JA, Jordan GB. Logic models: a tool for telling your programs performance story. *Eval Program Plann* 1999;**22**:65–72.

10. Reed JE, McNicholas C, Woodcock T *et al.* Designing quality improvement initiatives: the action effect method, a structured approach to identifying and articulating programme theory. *BMJ Qual Saf* 2014;**23**:1040–8.

11. Wiese J, Buehler R, Griffin D. Backward planning: Effects of planning direction on predictions of task completion time. *Judgm Decis Mak* 2016;**11**:147–67.

12. van der Scheer JW, Woodward M, Ansari A *et al.* How to specify healthcare process improvements collaboratively using rapid, remote consensus-building: a framework and a case study of its application. *BMC Med Res Methodol* 2021;**21**:103.

13. Wu F, Burt J, Chowdhury T *et al.* Specialty COPD care during COVID-19: patient and clinician perspectives on remote delivery. *BMJ Open Respir Res* 2021;**8**:e000817.

14. Bernal JL, Cummins S, Gasparrini A. Difference in difference, controlled interrupted time series and synthetic controls. *Int J Epidemiol* 2019;**48**:2062–3.

15. Hinde S, Bojke L, Richardson G. Understanding and addressing the challenges of conducting quantitative evaluation at a local level: a worked example of the available approaches. *BMJ Open* 2019;**9**:29830.

16. Li L, Cuerden MS, Liu B *et al.* Three Statistical Approaches for Assessment of Intervention Effects: A Primer for Practitioners. *Risk Manag Healthc Policy* 2021;**14**:757–70.

17. Colson KE, Rudolph KE, Zimmerman SC *et al.* Optimizing matching and analysis combinations for estimating causal effects. *Scientific Reports 2016 6:1* 2016;**6**:1–11.

18. de Vocht F, Campbell R, Brennan A *et al.* Propensity score matching for selection of local areas as controls for evaluation of effects of alcohol policies in case series and quasi case-control designs. *Public Health* 2016;**132**:40–9.

19. Exley J, Abel GA, Fernandez JL *et al.* Impact of the Southwark and Lambeth Integrated Care Older People's Programme on hospital utilisation and costs: controlled time series and cost-consequence analysis. *BMJ Open* 2019;**9**:e024220.

20. Papadogeorgou G, Choirat C, Zigler CM. Adjusting for unmeasured spatial confounding with distance adjusted propensity score matching. *Biostatistics* 2019;**20**:256–72.

21. Stuart EA, Huskamp HA, Duckworth K *et al.* Using propensity scores in difference-in-differences models to estimate the effects of a policy change. *Health Serv Outcomes Res Methodol* 2014;**14**:166–82.

22. Wing C, Simon K, Bello-Gomez RA. Designing Difference in Difference Studies: Best Practices for Public Health Policy Research. *https://doi.org/101146/annurev-publhealth-040617-013507* 2018;**39**:453–69.

23. Ogilvie D, Adams J, Bauman A *et al.* Using natural experimental studies to guide public health action: turning the evidence-based medicine paradigm on its head. *J Epidemiol Community Health* (1978) 2020;**74**, DOI: 10.1136/JECH-2019-213085.

24. Kontopantelis E, Doran T, Springate DA *et al.* Regression based quasi-experimental approach when randomisation is not an option: interrupted time series analysis. *BMJ* 2015;**350**, DOI: 10.1136/BMJ.H2750.

25. Abadie A. Using Synthetic Controls: Feasibility, Data Requirements, and Methodological Aspects. *J Econ Lit* 2021;**59**:391–425.

26. Gale NK, Heath G, Cameron E *et al.* Using the framework method for the analysis of qualitative data in multi-disciplinary health research. *BMC Med Res Methodol* 2013;**13**:1–8.

27. Leijten FRM, Struckmann V, van Ginneken E *et al.* The SELFIE framework for integrated care for multi-morbidity: Development and description. *Health Policy (New York)* 2018;**122**:12–22.

28. Nevedal AL, Reardon CM, Opra Widerquist MA *et al.* Rapid versus traditional qualitative analysis using the Consolidated Framework for Implementation Research (CFIR). *Implementation Science* 2021;**16**:67.

29. O'Cathain A, Murphy E, Nicholl J. Three techniques for integrating data in mixed methods studies. *BMJ* 2010;**341**:1147–50.

30. Skivington K, Matthews L, Simpson SA *et al.* A new framework for developing and evaluating complex interventions: update of Medical Research Council guidance. *BMJ* 2021;**374**, DOI: 10.1136/BMJ.N2061.

31. Damschroder LJ, Reardon CM, Widerquist MAO *et al.* The updated Consolidated Framework for Implementation Research based on user feedback. *Implementation Science 2022 17:1* 2022;**17**:1–16.