NIHR Rapid Service Evaluation Team (RSET) 2023-2028

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Abstract

BACKGROUND

Service or policy innovations to improve health and social care practice may be introduced rapidly, often without robust evidence.

AIMS

To address this, RSET will work with patients, public, and evidence users to rapidly evaluate health and social care innovations to develop robust findings on:

- Effectiveness
- Cost and cost-effectiveness
- Implementation in practice
- Stakeholder experience (e.g. patients, carers, service users, commissioners, health and social care professionals)
- Implications for inequalities
- Future lessons for implementation.

TEAM

We are an established team of researchers from University College London, University of Cambridge, and the Nuffield Trust. Working as the Rapid Service Evaluation Team ('RSET'; 2018-2023), we have a track-record of delivering 10 successful rapid evaluations with impact. Lessons from RSET 2018-2023 strengthened our approach in RSET 2023-28, including:

- Assessing feasibility at an early stage
- Having sufficient researcher and project management resource to deliver projects rapidly
- Building trusting, collaborative relationships with patients, carers and evidence users from project inception.
- Co-producing dissemination plans with evidence users to share rapid, high impact findings.

Our team includes two public and patient involvement and engagement (PPIE) leads (one an experienced patient representative). Together with our research team, they will co-produce evaluations with our expanded PPIE Panel.

Our team includes an extended Stakeholder Advisory Board (now co-chaired by a leading voice in user involvement), who will provide strategic advice.

METHODS

DISCOVERY: Evaluations will include an initial 2-4 week process where we engage PPIE and evidence users to establish what is known about the topic and its feasibility for rapid evaluation.

SCOPING: We will then work with evidence users and PPIE to develop a protocol (2 weeks-6 months).

BUILDING THE TEAM: Each evaluation will have a team that includes a dedicated lead, suitably skilled researchers, and a project manager. We will co-produce each evaluation with project-specific PPIE and evidence users.

DESIGN/METHODS: Evaluations will use mixed-method designs and draw on innovative methods (e.g. rapid ethnography, RAP sheets, Stanford Lightning Reports) to produce and share both formative and summative lessons. Methods will differ across evaluations, but may include quantitative methods (e.g.

secondary analysis of national and local datasets, cross-sectional survey methods), health economic methods (e.g. cost consequences analysis, budget impact analyses), and qualitative methods (e.g. interviews, focus groups, non-participant observations, documentary analysis, rapid ethnography).

EQUALITY, DIVERSITY AND INCLUSION (EDI): Studies will involve diverse participants and address potential inequalities associated with innovations. We will use a range of approaches (e.g. equalities impact assessment, translation of materials) to minimise potential unintended inequalities of the research.

DISSEMINATION/IMPACT

We will work with PPIE collaborators, evidence users, and Nuffield Trust Communications team to produce tailored dissemination plans for each project. To support local uptake of learning, we will share early findings with evidence users and wider stakeholders in tailored formats (e.g. slide sets). To achieve wider impact, we will publish findings using preprints, journal articles, final reports, accessible summaries, infographics, and short videos.

Plain English Summary

BACKGROUND

Health and care services have changed a lot in recent years. Often, we don't know if new policies or services make a difference, what people think of them, or their value for money. We need a research team that can quickly study new health and care services or policies, and share useful lessons to guide future improvement.

TEAM

We are researchers from University College London, University of Cambridge, and the Nuffield Trust. We are experienced in using a mix of approaches to study new health and care services or policies. Since 2018, we have worked as a team to carry out 10 rapid studies, which have shaped national policy and local services. This has taught us the importance of:

- Checking whether studies can work before we start;
- Building a team with the right skills and experience;
- Working with people affected by new services or policies, including patients and carers;
- Being open and able to change plans when we need to.

AIM

Our team will produce rapid studies of new health and care services and policies. We will look at how they are set up, how they work for all involved, impact on patient care and health, value for money, and inequalities.

APPROACH

For each study, we will check what is known about the topic. We will then discuss with the funder (NIHR HSDR) whether the study is needed and can be done quickly. If funder and RSET agree, we will make a full study plan.

Our studies will use a mix of approaches. We will study 'what works at what cost', e.g. how new services and policies affect patient care, value for money, and inequalities. We will use national and local data on care quality and hospital activity, to compare studied services with other parts of the country over time.

We will also study 'how change happens and why', e.g. how services are set up and work in practice, and what patients, carers, and staff think of them (including impact on inequalities). We will run interviews, focus groups, workshops and surveys, review relevant documents (e.g. service plans), and observe services in action.

Study teams will include a project lead, a project manager, patients, researchers, and stakeholders, e.g. service leaders and staff, and charities. Teams will meet every 1-2 weeks, and share progress with the wider team every month.

Our team and research will stay fully independent throughout.

INVOLVING PATIENTS AND PUBLIC

An expert patient representative will ensure patients and public are central to our work. A patient and public group will advise on all aspects of our work. Our advisory board will be co-chaired by a leading voice in patient involvement and includes patients and a patient and public involvement expert. Study teams will include people who have used services we study.

INEQUALITIES

We will study how new services and policies affect inequalities, including looking at whether certain groups face difficulties accessing or using services. We will involve a range of people, e.g. by translating study materials. Our advisory board includes experts in inequalities.

ENGAGEMENT

We will work with people who develop and deliver new services. We will be open and honest, to learn what matters to staff, how we can work together, and how to share findings.

SHARING WHAT WE LEARN

We want our work to be understood and used quickly. We will share findings with people who develop, lead, deliver, and receive services throughout our studies. We will do this in different ways, including research papers, clear summaries (blogs and slide sets), newsletters, social media, videos, and online and in-person events.

1. Background summary

There is a need to develop and accelerate health and care service innovations in order to 1) cope with demands on the health and care system (e.g. workforce shortages, increased patient and service user need for support due to increasing life expectancy, and increases in numbers of people living with multimorbidity), 2) embrace developments in treatments and technologies and 3) cope with wider economic pressures. However, innovations often do not have existing evidence to support their implementation, demonstrate impact, and cost-effectiveness, or provide insight into how various stakeholders experience new services or policies. Additionally, innovations in health and care services may not spread as fast nor have the same degree of impact as in other sectors – particularly in terms of rapidly shaping frontline service delivery. There is therefore a need for new approaches to evaluation that provide robust evidence to meet these needs rapidly. In 2018, the NIHR HS&DR programme funded two rapid evaluation research teams for five years to meet this need. Following the success of these programmes (research contracts), a funding call was announced for a further five years of funding for successful rapid evaluation teams from 2023 onwards. In this protocol we outline our methods for the Rapid Service Evaluation team (2023-2028).

2. Research team

2.1 Team expertise

This protocol builds on the success of the first NIHR Rapid Service Evaluation Team programme 'RSET' (2018-2023, Award no. 16/138/17), which co-produced evaluations of innovations with substantial impact (Table 1 summarises some key impacts achieved through RSET (2018-2023)). This was a five-year collaboration between two world-leading research units (University College London Department of Applied Health Research, and University of Cambridge Primary Care Unit) and an influential research and policy organisation (Nuffield Trust). Programmes of this kind can only be delivered by a multidisciplinary team that includes researchers, managers, and evidence users, including patient representatives, with expertise in managing and delivering a complex programme of high impact, rapid evaluation. For more information about activities and impacts of the first 5 years of RSET (2018-2023) see https://www.nuffieldtrust.org.uk/rset-the-rapid-service-evaluation-team.

Table 1. Key impacts of example RSET (2018-2023) projects

Project	Impact
Evaluation of Special Measures Regime for Quality	Lessons for regulators, drawn from our findings, influenced development of the new Recovery Support Programme which replaced the Special Measures Regime.
Evaluation of prehospital triage for suspected stroke	Findings influenced NHS England national pilot of prehospital triage for stroke, implemented across 9 regions of England.
Evaluation of COVID-19 remote home monitoring services	Phase 1 informed service improvements and national roll out of services during second wave of the pandemic. Phase 2 informed service improvements and development of virtual wards for non-covid conditions.

Our team includes the following individuals, who worked on RSET (2018-2023) and have led and delivered innovative rapid evaluations (*indicated with**) and influential non-rapid studies (*indicated with#*):

- **Professor Naomi Fulop*#** (UCL, Director): internationally renowned health services researcher with expertise in evaluating large- and smaller-scale complex service and policy innovations. Will provide management and senior oversight to the whole programme, co-chair RSET executive management group meetings, guide project leads, be first point of contact with the funder (NIHR HSDR).

- **Dr Angus Ramsay*** (UCL, Qualitative lead; Deputy Director): mixed method researcher with expertise in knowledge mobilisation and delivering high impact evaluations of healthcare innovations. Will co-chair RSET executive management group meetings and be first point of contact with external partners and Nuffield Comms.
- **Professor Steve Morris**# (University of Cambridge, Health economics lead): economist with expertise in economic evaluation of NHS innovations and econometric analysis of large datasets.
- **Chris Sherlaw-Johnson***# (Nuffield Trust, Quantitative lead): expert in developing and using quantitative methods to evaluate health services.
- **Raj Mehta** (UCL, PPIE co-lead): longstanding, active member of our RSET (2018-2023) PPIE Panel; proposed PPIE co-applicant.
- **Pei Li Ng** (UCL, Senior Project Manager, PPIE co-lead): Project planning and delivery, PPIE and stakeholder management.
- **Dr Holly Walton** (UCL, Qualitative researcher): expertise in process evaluation, implementation research (including patient engagement), and behavioural science.
- **Theo Georghiou** (Nuffield Trust, Quantitative researcher): expertise in developing and using quantitative methods to evaluate health services.
- **Dr Nadia Crellin** (Nuffield Trust, Qualitative/quantitative researcher): expertise in qualitative and quantitative aspects of research design and analysis in health service evaluations.
- **Natasha Curry** (Nuffield Trust, Advisor): expertise in social care and health policy.

These individuals will form the ***RSET (2023-2028) Executive Management Group***. Section 4 provides further detail on the RSET (2023-2028) management structure and resources and costs requested.

2.2 Team knowledge

2.2.1 Defining health and social care innovations

RSET (2023-2028) will evaluate health and social care innovations: these may combine technological, financial, policy, and service model changes. They may be driven by national policy or local need, and may operate at different levels within the system, e.g. policy innovations, new regulatory systems, new service delivery models, or quality improvement initiatives. Innovations are commonly implemented within the NHS before their impact is fully known. For example, the health and care systems rapidly introduced innovations to adapt to the COVID-19 pandemic.[1-3] These addressed immediate challenges such as radical reductions in face-to-face appointments, and workforce redeployments,[4-7] and longer-term challenges such as backlogs, staff burnout, and health inequalities exacerbated by the pandemic.[8-10] At the same time, innovations may require flexible and varied financial structures and support mechanisms, which aid scale-up and spread beyond local settings. New service delivery models may demand innovative governance and payment arrangements.

2.2.2 Tensions and sensitivities of conducting rapid evaluations

Both rapid and non-rapid evaluations can be complex and politically sensitive, requiring a balance between stakeholder engagement and trust whilst maintaining independence. This can be challenging, e.g. due to the importance of interventions, and optimism bias of intervention designers and implementers.[11, 12] In RSET (2018-2023), we worked closely with evidence-users to familiarise ourselves with context and service issues to gain an understanding of the tensions and sensitivities. We worked to quickly build rapport and trust with stakeholders; we met stakeholders regularly to listen to and understand their perspectives, and share evaluation progress and formative findings (see Section 6 for further details). We also managed expectations by being transparent about limitations of rapid evaluations with short timeframes.[11, 13]

2.3 Previous experience

The team has broad and deep expertise in rapid and non-rapid qualitative, quantitative and economic methods, ensuring Patient and Public Involvement and Engagement (PPIE) throughout (***Appendix 1*** summarises our diverse applied methodological expertise). By the end of RSET (2018-2023), we will have delivered ten rapid evaluations across a range of health and social care settings in close collaboration with evidence users (seven complete,[14-20] three due to complete by end contract [21-23]). Full details of our work and outputs can be accessed on the RSET webpage (https://www.nuffieldtrust.org.uk/rset-the-rapid-service-evaluation-team).

The team have extensive experience of co-producing evaluations or conducting research with national stakeholders[15, 24, 25] and local service providers,[14, 26] including community and social care [27-36] and members of the public and the wider community [20, 27] (Section 1.4 covers our networks, and Section 3 our co-production plans). Throughout our work, we have used formative and summative approaches to achieve impact at national and local levels (Appendix 1). This application builds on learning from five years of RSET(2018-2023), [11, 13] summarised in Table 2.

Table 2. Summary of lessons for conducting rapid evaluations of innovations in health and care [11, 13] and approach proposed for RSET (2023-2028) building on these lessons

Theme	**Lessons learned from RSET (2018-2023)**	**Proposed approach for RSET (2023-2028)**
Team characteristics and management	- Team-based approach to qualitative data collection/analysis increased scale and speed.[13] - Resource appropriately for timescale (e.g. large, rapid evaluations require more leadership and bigger team).[11] - Need committed senior leadership, and suitably skilled teams.[11] - Project management needed at all stages.	- Executive management group of co-investigators. Project leads identified from this group. This will increase leadership capacity and ensure success of projects. - Budgeted for several researchers (qualitative, quantitative and health economics expertise). - Social care expertise – expert in social care included within team to advise on needs of social care evaluations in addition to our ability to bring in additional social care expertise where necessary. - External consultancy budget to bring in additional expertise as needed. - Doubled project management capacity (0.5 FTE to 1.0 FTE).
Ensuring feasibility of rapid evaluations	- Scoping important to decide feasibility and approach rapidly.[11, 13] - Consider what cannot be done rapidly. - Design evaluations to address policy and practice issues.[11] - Use structured processes for rapidity and consistency.[11] - Be responsive to changing needs and circumstances.[11] - Demonstrate flexibility in methods and approach.	- Introduced discovery phase (for feasibility assessment). Discovery and Scoping both consider availability of data and implications and risks of collecting new data. - Use existing resources (e.g. ethical applications, information and consent forms, Rapid Assessment Procedure (RAP), topic guides, survey questions) for rapid development of consistent approaches.

	- Consider risks of collecting new quantitative data.[11]	- Team experience plus external consultancy budget enables flexibility and choice of appropriate methods.
Working with stakeholders	- PPIE input is required from the inception of projects. - Quickly build trust and rapport with all stakeholders (including PPIE members, commissioners, healthcare providers) – using open conversations and transparency around limitations/uncertainty.[11, 13] - Plan how best to share formative and summative findings with evidence users to inform decision making and facilitate impact.[11, 13] - Use embedded approach (communications specialists and research team) to develop tailored, high impact dissemination plans, incorporating formative and summative feedback.	- Enhanced PPIE strategy - PPIE input from conception of projects (by working with community and charity partners, and our existing PPIE Panel), two PPIE co-leads (RM and PLN), project level PPIE. - Enhanced evidence user strategy - expanded Stakeholder Advisory Board, project-level advisory boards as necessary. - Co-produce dissemination plans with evidence users to facilitate impact. - Enhanced communications strategy – co-develop tailored dissemination plans with Nuffield Trust Comms Team, "interview" researchers to inform comms planning, include comms in project meetings, build 1:1 relationships and interactions, responsive media work.

2.4 Networks

Through our extensive history of conducting high impact, rapid and non-rapid research, the RSET team have extensive networks in health and care sectors at national, regional, and local levels. Key stakeholders include NHS England (NHSE), Academic Health Science Networks (AHSNs), NIHR Applied Research Collaborations (ARCs), the Association of Directors of Adult Social Services (ADASS), and the NHS Confederation. We have longstanding, productive relationships with health and care services, including specialist acute and surgical services[37-41] and services for people with rare diseases.[42-46] We have strong links with other rapid evaluation teams (e.g. BRACE) and the wider research community, particularly through Health Services Research UK (HSRUK). We will continue to work with other rapid evaluation teams, including the new NIHR social care rapid evaluation team. In addition, the Nuffield Trust's influencing and engagement work on key health and social care policy issues enables close relationships with government and opposition parties, arm's-length bodies, other policy-focused organisations, and the media. We also have productive relationships with third sector organisations (e.g. Stroke Association, Cancer Research UK, Shaping our Lives) as collaborators in our research and facilitators of our impact (e.g.[38, 47, 48]).

2.5 Patient and public involvement and engagement (PPIE)

PPIE will shape all aspects of RSET (2023-2028) – strategic leadership, programme oversight, project delivery, and enabling impact. We will build active, sustainable partnerships with a diverse range of patients and public. While rapid evaluations can limit the time available to develop ways of working with patient representatives, we are able to draw on a co-produced strategy from RSET (2018-2023) to provide a foundation for new relationships in RSET (2023-2028). At the start of RSET (2018-2023), a 2.5% FTE PPIE Coordinator worked with the NIHR CLAHRC North Thames PPIE panel to obtain input on our projects, and our SAB included 2 PPIE members. We improved this approach throughout RSET (2018-2023) to include co-producing a strategy with PPIE members, developing a 5-member PPIE

Panel, recruiting project-specific PPIE via NIHR's People in Research platform, forming project-specific PPIE Panels, and appointing a PPIE Lead (PLN 10% FTE) to facilitate PPIE on all projects.

The approach to PPIE in RSET (2023-2028) will build on our learning from RSET (2018-2023). PPIE will be co-led by a patient representative (RM, 10% FTE) and a senior project manager (PLN, 10% FTE on PPIE). We will be guided by UK Standards for Public Involvement[49] to find innovative ways to collaborate rapidly with patients and public in all aspects of our work.

2.5.1 PPIE objectives for RSET (2023-2028)

1. **Tailored involvement**: PPIE partners from diverse backgrounds will be matched to projects according to their lived experience. We will facilitate PPIE partners' participation throughout all study phases, tailoring the level and nature of involvement to their preferences and requirements.
2. **Governance:** PPIE leads will attend executive management group meetings to ensure best PPIE practices are integrated into every aspect of the programme.
3. **Supportive of collaboration**: development resources and training activities will ensure PPIE partners and researchers continue to develop their collaboration skills (regardless of experience level).
4. **Accessible and appropriate communication**: a range of communication methods/formats will be used to reflect people's different accessibility and engagement needs.
5. **Continuous learning**: PPIE activity will be captured using the Public Involvement in Research Impact Toolkit (PIRIT).[50] This information will guide regular feedback and reflective discussion between PPIE partners and researchers, to support ongoing improvement of our PPIE approach.

2.5.2 PPIE approach

To optimise PPIE throughout the programme we will take a multi-tiered approach:

- **Involvement of two PPIE leads** (RM and PLN) to oversee PPIE practices.
- **Programme level governance:** our Stakeholder Advisory Board (SAB) will be co-chaired by an SAB member with public and patient expertise (TBC) (together with Rob Webster). Our SAB includes a highly respected expert in PPIE and addressing issues of racial diversity within PPIE (Dr Sarah Knowles). Knowles will ensure best practice throughout the programme. Dr Knowles will attend SAB meetings and PPIE Panel meetings.
- **Programme level PPIE Panel**: We will extend our current PPIE Panel from 5 to 8-10 members, in order to increase capacity and diversity (including young people, those new to PPIE, carers, members of minority ethnicity groups, and groups who struggle to access services or experience health inequalities). PPIE roles will be advertised through the NIHR *People in Research* platform, and Shaping our Lives. Our PPIE Panel will meet 2-4 times per year and feed into all aspects of ongoing and developing RSET (2023-2028) projects (Figure 1; Section 4).

2.5.3 Project level PPIE

During **discovery and scoping**, we will conduct workshops with patients and the public to assess relevance of the proposed work, discuss the evaluation focus, and inform dissemination approaches. We will recruit attendees quickly by liaising with organisations such as Shaping Our Lives (a non-profit organisation that facilitates involvement of disabled and other marginalised communities),[51] NIHR's *People in Research* platform,[52] and social media engagement. The PPIE Panel will be a 'ready' resource to give feedback during these early stages.

During **protocol development**, 1-2 PPIE partners will be ***recruited to research teams*** to co-design project plans, including advising on data collection, interpretation, and dissemination. We will also establish ***project advisory panels*** (Section 4.1). Panels will provide independent advice on all aspects of projects, and will include a range of stakeholders, including at least one person with relevant lived experience (potentially recruited via the scoping workshops).

During **project delivery**, PPIE partners will attend project meetings to guide delivery of the project, including decision-making, interpretation of findings, and co-production of outputs). They will also attend PPIE Panel meetings (to support ongoing development of our PPIE approach).

Wider collaboration: We will work closely with other rapid evaluation teams' PPIE groups on joint projects as we did in RSET (2018-2023).[15, 27]

Our ***PPIE Terms of Reference*** will be co-produced with PPIE partners. This will cover RSET's (2023-2028) PPIE objectives and processes at programme and project level, as well as reimbursement and payment (following NIHR guidance).[53] PPIE members will receive training to support them with their role throughout RSET (2023-2028). Additionally, we will provide feedback to PPIE members regarding the impact their feedback has made on evaluations. This will support continual development for PPIE members.

2.6 Equality, diversity and inclusion

The team are committed to ensuring equality, diversity and inclusion (EDI) within RSET (2023-2028). Our EDI practices cover the programme team (outlined here) and the way we conduct research (Section 3.12). The research team comprises a mix of backgrounds in relation to gender, age, ethnicity and other protected characteristics. In terms of our wider team, we will ensure that our SAB and PPIE Panels represent a range of backgrounds (age, gender, ethnicity) and experiences of different aspects of the health and care system. In support of EDI practices, our SAB will include an expert in EDI, who will provide oversight and guidance on our EDI activity. We will recruit new members of staff in line with partner organisations' policy, encouraging equality, diversity and inclusion throughout recruitment.

3. Research design/Methods

3.1 Aims

RSET (2023-2028) will carry out rapid evaluations of health and care innovations, in close partnership with those who deliver, manage and use these services, to produce timely findings of national relevance and of immediate use to decision-makers.

3.2 Objectives

Our objectives will be to:

- Work in partnership with PPIE and evidence users to co-produce meaningful evaluations of innovations implemented in health and care systems and services in England and other home nations;
- Collect/access relevant and timely data to evaluate innovations, including potential impact on inequalities;
- Use existing and novel analytical methods to evaluate innovations and produce timely findings of national relevance and immediate use to decision-makers;
- Generate formative and summative lessons on innovations (e.g. on scalability and transferability of innovations) using rapid, innovative approaches so that learning can be used quickly in other parts of the health and care system;
- Develop and share learning about methods and our experiences of rapid evaluation.

3.3 Theoretical/conceptual frameworks

Theoretical frameworks can help researchers understand problems, specify components of interventions, and develop and test hypotheses on how the implementation of innovations may relate to outcomes.[54] Relevant and appropriate theoretical frameworks will be used throughout our evaluations both in terms of design (e.g. to inform research questions, topic guides and survey tools) and analysis (e.g. coding frameworks). Our team has expertise in using and contributing to theory, with examples covering adoption, spread, outcomes, and sustainability of innovations,[55-59] implementation science,[60-65] major system change,[37] treatment burden,[66] and behaviour change.[67, 68] We will draw on theories that are most relevant to the focus and scope of evaluations. For example, within the rapid COVID-19 remote home monitoring study[15] we used different theories to support different aspects of analysis. Patient engagement and experience were analysed through *burden of treatment* theory,[69] workforce and staff experience were analysed using *caring at a distance theory,*[70] implementation was analysed using the *major system change framework,*[15] and remote monitoring and technology were analysed using the *NASSS framework.*[15]

3.4 Research questions

These may include the following, depending on the specific needs of each evaluation:

- **RQ1.** How was the innovation developed (e.g. drivers for change, theory of change)?
- **RQ2**. How was the innovation designed to address or overcome potential inequalities?
- **RQ3**. How was the innovation implemented in practice?
- **RQ4.** Which factors influenced implementation?
- **RQ5.** What was the impact of the innovation on outcomes (for patients, staff, services), including potential unintended consequences, or how might the impact of innovations be evaluated in future?
- **RQ6.** What was the cost of the innovation, was it cost-effective and under what circumstances would it be cost-effective, or how can the costs of innovations be evaluated in future?
- **RQ7.** What were the experiences, preferences, and behaviours of staff delivering the innovation?
- **RQ8.** What were the experiences, preferences, and behaviours of patients and carers?
- **RQ9.** Were there impacts from service innovations on access, inequalities and disparities?
- **RQ10.** What lessons can be learned for future implementation of the innovation?

3.5 Research design

We will conduct rapid, rigorous and co-produced mixed-methods multidisciplinary evaluations. Methods will be tailored to the individual needs of each evaluation,[11] but it is likely that evaluations will typically combine a range of qualitative and quantitative methods. We will continue to embrace innovative methodological approaches (see Section 2.11 for examples). We will aim to recruit a range of sites in different healthcare settings that have implemented each innovation, to compare across different organisational contexts. Evaluations will include a wide range of participants (e.g. patients, carers, healthcare providers) with diverse backgrounds (e.g. age, gender, ethnicity, and experience - see Section 2.12).

3.6 Integrating research components

Methods will be integrated throughout the evaluation process. At the design stage, we will consider how different methods might be linked to address research questions, and ensure data collected in workstreams support their integration (e.g. quantitative analyses reflect issues identified in initial qualitative observations, interview topic guides explore issues likely to arise from quantitative analyses). Findings will be drawn together throughout the analysis and interpretation stages, e.g. using Rapid Assessment Procedure (RAP) sheets[71] and joint displays (which present results from all research components, organised around our research questions).[72] Where appropriate, we will use multi-site case study designs to identify site-specific and more generalisable lessons.[73] For example, in the COVID-19 remote home monitoring evaluation, cost data and data on uptake of local services were combined with patient and staff surveys and interviews.[15, 69, 70] This will facilitate identification of complementary and explanatory findings (e.g. where qualitative findings on implementation (e.g. uptake) may help explain quantitative observations).

3.7 Topic selection

Unlike RSET (2018-2023), in RSET (2023-2028) the funder will mainly identify evaluation topics. In the event that we are approached through our networks with ideas for rapid evaluations, we will encourage stakeholders to submit these ideas to the funder.

3.8 Discovery and scoping

In RSET (2018-2023), scoping was essential to check the feasibility of evaluations.[11, 13] Building on our learning, we now propose two stages of scoping: a) discovery – a 2-4 week, targeted feasibility check, completed prior to protocol development; and b) scoping and protocol development (see Table 3). We have developed several criteria (and associated questions) that will help us (together with stakeholders and funders) to scope an evaluation appropriately in RSET (2023-2028) (see Table 3).

3.8.1 Discovery stage (pre-Protocol Development)

Upon receiving a topic, we will work with PPIE and evidence users (e.g. our established networks) to conduct an initial feasibility assessment. This will assess whether a rapid evaluation is required to inform policy and practice, whether the topic is amenable to rapid evaluation, and likely contribution of rapid evaluation to delivery of the innovation (see Table 3). Within this stage, we will also seek advice from our social care advisor (NCu) on the likely needs of social care services and implications of each evaluation for social care, in order to embed social care within our evaluations where appropriate. We will aim to complete this stage within 2-4 weeks. If the team think that the evaluation should not be continued, we will discuss with the funder.

3.8.2 Scoping and protocol development

If the topic is deemed to be appropriate and amenable for rapid evaluation on the information obtained, we will conduct a period of iterative scoping work and protocol development. This stage will explore what is known about the subject and to identify gaps, in order to guide evaluation design. Within this stage, we will consider how best to address social care issues identified within the discovery stage, in collaboration with our social care advisor (NCu). This stage may last from 2 weeks[17, 74] to 6 months).[24, 25] Throughout, we will be guided by in-depth collaboration with PPIE and evidence users, and a review of available evidence.

PPIE and evidence users will be involved in several interrelated processes. We will learn about the innovation, its context, and activity to date; explore what data would be available for analysis; and co-produce research questions. These processes are critical not just to evaluation design, but also to building relationships with key stakeholders, including patients and public, by involving them in decisions about all aspects of the evaluation (e.g.[11, 13]). A literature search will be conducted to establish what is known about each topic, what data are available and possible initial analyses (e.g. power calculations). This approach worked well in previous evaluations (e.g.[21, 24, 28, 74]). During scoping, we will explore the appropriateness and feasibility of including comparators from the other three UK nations (Wales, Scotland and Northern Ireland).

Scoping will result in a protocol co-produced with PPIE and evidence users. Protocols will be reviewed by 1-2 external peer reviewers with expertise in the topic (using a rapid peer review template that we have designed). Protocols will then be shared with the funder for review, approval, and publication on the NIHR website. Where appropriate, we will publish protocols in peer-reviewed journals.

3.8.3 Decision-making with funder

Findings from discovery and scoping may result in a proposal not to proceed with a rapid evaluation. This will be presented and discussed with the funder informed by criteria we have developed to support these decisions (see Table 3). Issues may be practical in nature (e.g. established evidence base, no urgency, lack of engagement) or methodological (e.g. difficulties recruiting in time).[13] We will discuss our discovery and scoping findings with the funder to decide what is best for the evaluation. The final decision on whether or not the project continues, will be agreed with the funder.

Table 3. Criteria for deciding whether to proceed with rapid evaluation (informed by [13, 20]).

Stages	**Criteria**	**Questions**
Discovery stage (early feasibility check; aim to complete within 2-4 weeks)	Rapid evaluation seems appropriate	• Does the innovation require rapid evaluation to inform policy and practice?
	The innovation seems amenable to rapid evaluation	• Is the innovation in operation/being trialled currently? • Can we secure local buy in and involvement for an evaluation? • Are the innovation and its aims well defined? • What are the benefits or risks to evaluating now? • Are there other reasons why a rapid evaluation is either infeasible or inappropriate? • How will rapid evaluation contribute to delivery of innovation? • If quantitative data are critical to the evaluation, will they be potentially available?
Scoping (2 weeks-6 months)	Rapid evaluation is needed/justified	• Are there relevant gaps in evidence? • Are lessons required urgently (e.g. to inform policy or practice rapidly)? • Do stakeholders/evidence-users/PPIE agree on the need for the evaluation and its focus, scope, and timescale?
	There is sufficient stakeholder engagement	• Do national/local stakeholders confirm support for evaluation? e.g. do they agree to join study group/steering panel, or act as local contact?
	There are no methodological barriers preventing rigorous rapid evaluation	• Are sufficient (quantitative and/or qualitative) data available on the innovation, or can such data be collected in the given timeframe? • Can research questions be answered with sufficient methodological rigour within the required timeframe?

3.9 Research methods

Evaluations will usually incorporate a combination of quantitative, health economic, and qualitative methods. A variety of different data collection methods will be used, depending on the study (see Appendix 1). Structured processes for data collection will ensure consistency and for work to be rapidly picked up by other team members where necessary.[11] Below, we describe our proposed methods for each indicative Research Question. As outlined elsewhere (e.g. Sections 1.5, 2.8, 3, 4), our approach to addressing these questions will be shaped by engagement with PPIE and evidence users from the discovery and scoping phases onwards.

- **What was the process of development for the innovation (RQ1) and how was the innovation designed to address or overcome potential inequalities (RQ2)?**

Rapid qualitative methods, including rapid ethnography,[71] will be used to evaluate how innovations were developed at national and local level, including how potential impact on inequalities was considered and addressed. To analyse the decision to change, theories of change, and service/policy need, example methods include: interviewing national and local leads and providers; and analysing relevant documents (e.g. policy, project/programme plans and meeting documentation). To understand how health inequalities have been considered, example methods include: interviewing relevant individuals (service leads, equality leads, patient group representatives that may face barriers to access or engagement); and reviewing equality and health inequality impact assessments (EHIAs) that have been conducted (see Section 2.12 for more details on how we will address potential inequalities within our evaluations).

- **How was the innovation implemented in practice (RQ3) and what factors influenced implementation (RQ4)?**

Implementation will be analysed using mixed methods approaches. Qualitative methods will draw on rapid ethnography[71] to study e.g. variations in implementation approaches, leadership and management of change, any unintended consequences, and influential factors, including organisational and service context. We will aim to sample different healthcare settings that have implemented innovations, to compare service models, geographical location (e.g. rurality), and local populations (e.g. deprivation). We will interview a range of participants from healthcare providers and the wider context (e.g. commissioners and voluntary sector). To analyse implementation quantitatively, where possible, we will draw on national and local datasets to determine uptake, adoption, and spread of services, and cost data.

Quantitative and qualitative data will be triangulated and integrated to understand how an innovation has been implemented and factors influencing implementation. Where appropriate, we will use multi-site case study designs to identify site-specific and more generalisable lessons (see Section 2.6 for approaches to integration and Section 2.3 for theoretical frameworks to be used).

- **RQ5. What was the impact of the innovation on outcomes (patients, staff, services), or how can impact of innovations be evaluated in future?**

We will typically analyse impact on patient outcomes, care resources, inequalities of access and outcome, changes in care delivery and efficiency, as well as unintended consequences. In cases where the best ways to measure effectiveness are not certain, we will investigate the options available (e.g. as in RSET (2018-2023) social care in prisons).[23] The analyses we conduct will depend on the data available: for example, whether appropriate data have been collected for enough patients, whether it is of sufficient quality, and whether the data can be accessed (this will be assessed during the Scoping phase (Section 2.8)).

Routine datasets will include regularly updated national hospital administrative and community service data (Hospital Episode Statistics (HES), Emergency Care Data Set (ECDS) and the Community Services Data Set (CSDS)). These data will provide relevant contextual information, e.g. activity at national or regional levels, and permit analyses of changes over time. Further, we may use these data to measure the impacts of service changes alongside local data, or as an alternative when local data are unavailable.

There may be situations where we wish to access other routine datasets, e.g. for evaluating services outside England, or primary care data. We have relevant prior experience and mature information governance and data security processes in place to support such data access requests (see Section 8.1 for further information on data and approvals).

Where we are able to access local data, our priority will be to understand its quality and completeness, especially if it is new data produced by the service itself. Mitigating data quality issues using sensitivity analysis has been an important component of our rapid evaluations for RSET (2018-2023), including those of the COVID-19 remote home monitoring service[75] and the patient-initiated follow-up outpatient innovation.[22, 76]

If there are insufficient primary quantitative data (e.g. it is not available, or there are not enough patients) then we will consider alternative approaches, such as developing a framework to facilitate future evaluation, monitoring with formative feedback, or using available evidence in mathematical models.

- **RQ6. What was the cost of the innovation, and was it cost-effective, or how can the cost of innovations be evaluated in future?**

During the scoping phase, we will discuss with stakeholders what economic analysis will be most useful to inform decision-making. For example, this might be a full cost-utility analysis of the kind recommended by the National Institute for Health and Care Excellence,[77] or a cost analysis of running an innovation, or a budget impact analysis to determine if the innovation is cost neutral or not. We will evaluate the costs and cost-effectiveness of innovations by exploring the costs of setting up and running the service and balancing these against their outcomes. The economic outcomes will incorporate outcome measures described above (RQ5) plus, where possible, quality-adjusted life years (QALYs). Costs and outcomes will be combined in cost-effectiveness, cost-consequences or cost-utility analyses.

Measurement of outcomes will draw heavily on the research to address RQ5. We will focus on intermediate outcome measures, with modelling using pre-existing data if required to extrapolate long-term outcomes. We will assess whether it will be possible to calculate or model QALYs by predicting quality and length of life from the outcomes estimates to address RQ5. For example, mortality or survival impacts may be quantified in the effectiveness work, and utilities suitable for estimating QALYs may be taken from published sources or registries of utility data, such as the CEA Registry at Tufts Medical Center.[78]

Costs will be assessed from the perspective of the NHS and personal social services, and also from a wider societal perspective if appropriate; this will depend on the research question and needs of the research end-users. We will use data collected at the scoping phase to delineate the important cost components to include in our analyses; to allow the analyses to proceed as rapidly as possible we will focus on key cost components only, where these costs are likely to differ sizeably between the options being compared. The volume of resource use for each of these cost components will be quantified using survey tools completed by service providers, or from published sources, or from interviews and focus groups undertaken as part of the research in the qualitative workstreams (see below). Resource use will be valued using local or national unit costs, for example, NHS Reference Costs,[79] and the Unit Costs of Health and Social Care.[80]

Doing health economic evaluations rapidly may increase variability and uncertainty in the findings. This will be explored, quantified, and communicated transparently, e.g. using statistical inference to address sampling variation, and deterministic and probabilistic sensitivity analysis to investigate parameter uncertainty. Where feasible, we will also undertake a budget impact analysis, combining incremental costs with epidemiological data on expected patient numbers, to investigate what the budgetary implications would be if the innovation were to be rolled out.

- **What were the experiences, preferences and behaviours of staff delivering the innovation (RQ7), and patients and carers receiving the innovation (RQ8)?**

We will use mixed-methods (cross-sectional surveys, qualitative and rapid ethnographic methods[71] used to address RQs 1-4) to study experiences, preferences and behaviours of staff delivering the innovation and of patients and carers receiving the innovation.

- **RQ9. Were there impacts from the innovation on inequalities and disparities?**

Our mixed methods approach will study potential impacts from service innovations on inequalities and disparities in service access and uptake, and patient experience and engagement (again, guided by ongoing collaboration with PPIE and evidence users). Aggregated service-level data or national and local patient level data may be used to study uptake and access, and to identify any differences between groups that received the innovation and groups that did not receive the innovation.[81] We may also be able to determine characteristics of sites recruited to the study (e.g. geographical location, urban/rural characteristics, deprivation scores, ethnicity and size). The routine datasets that we typically use for quantitative analyses (HES and ECDS) have good coverage of information relating to age, sex and area-level deprivation. Levels of ethnicity coding have improved in recent years (to being 80-90% complete),[82] and we have experience in employing strategies to further improve coding by using data across several years. Members of the team have recently analysed pandemic-related impacts on elective backlogs, and on care activity for those who died at home, with special focus on disparities by ethnic group and deprivation.[83] However, evaluation of new services on rapid timescales may mean that we are often limited in what we might be able to determine about specific sub-groupings of patients.

We may also draw on findings from surveys with patients, carers and staff (see RQ 7 and 8). Surveys will include questions on demographic characteristics (including gender, age, living situation, education, postcode). Findings will be used to study impacts on patient experience and engagement. Qualitative methods will determine whether and how services or policies were designed to address potential inequalities by examining project plans and meeting documentation, and interviewing stakeholders about their views on implications of innovations for inequalities.

- **RQ10. What lessons can be learned for future implementation of the innovation?**

We will draw on findings from research questions 1-9 to inform longer-term evaluation or future implementation of the innovation, and if relevant, other innovations. These may include developing formal evaluation frameworks, which recommend data to be collected and methods of analysis.[23, 26, 76] With such frameworks, we aim to leave a legacy and help to build local evaluation capacity (both quantitative and qualitative), so that services may continue to monitor or evaluate local services themselves.

3.10 Data analysis

As outlined in Section 2.6, we will integrate methods and findings as appropriate to address our research questions. The quantitative data used and how we analyse it will depend on a combination of its availability and the needs of the project. Where it is appropriate to use inferential statistical analyses, such as to study impact of socioeconomic characteristics on access, experience or engagement (see RQ9), we will specify proposed hypotheses to test in our protocol – these will be based on previous existing literature where possible. Appropriate designs might be case-comparator studies, either at a person or site/area level analysed with multivariate statistical models.[84] If the implementation of new innovations are staggered over time, then we may consider step-wedge designs or interrupted time series.[25] Where data indicate that the degree to which a new service is implemented across an area is variable over time, we may consider a dose-response type of analysis.[75, 85] Given our access to national datasets, we anticipate that counterfactual methods like generalised synthetic controls would be attractive options for rapid analysis, with high potential for re-use on other studies.[84] In each case, we would need to consider the robustness of the methodology in a rapid context and decide whether a more innovative approach might be better suited (see Section 2.11). Alongside the team's own analytical experience, we have access to rapid external statistical and methodological advice.

For cost analyses, we will calculate and report the volume of resource use, unit costs and the product of these for each cost component, as well as total costs, for the options being compared (see RQ6). In each case we will report point estimates (mean and median costs per participant) and measures of variation (standard deviations/standard errors, confidence intervals, interquartile ranges). Costs will be converted into constant prices and values beyond one-year will be discounted according to recommended discount rates. To compare average resource use and costs between options, we will use adjusted regression analysis (e.g. general linear models). Where appropriate we will adjust for missing values using statistical methods (e.g. multiple imputation by chained equations).[86] We will undertake deterministic and probabilistic sensitivity analyses to investigate uncertainty.[87]

To analyse qualitative data, we will use Rapid ethnographic approaches, including Rapid Assessment Procedures;[71] these are used to rapidly capture key findings from different data sources, used successfully in previous research.[24, 25, 69-71] We will make notes on summary findings from each data source for each research site. This will enable us to pull together findings from different types of participant and research sites more quickly. We will code the information added into the tool to develop themes and subthemes. This will allow us to feedback findings to stakeholders more quickly. Our qualitative work may also draw on traditional thematic analysis methods,[88] e.g. mapping programme theories or theory of change (where relevant).

3.11 Using innovative rapid methods

Building on our experience and expertise (Appendix 1), the team will employ a range of innovative qualitative and quantitative data collection and analysis methods, as appropriate. These may include: a) using methods designed for rapid evaluation,[71] b) using intensive methods (e.g. shorter research, fewer participants or study sites), c) adapting standard research methods, and d) use of technologies or existing data.[89] Where necessary, we will complement these approaches with more thorough traditional qualitative methods, such as thematic analysis.[88] We will also explore the feasibility of adapting other innovative qualitative methods depending on appropriateness for individual studies. These may include creative methods such as photo elicitation/visual ethnography;[90, 91] using 'big data' approaches, such as text mining, data visualisation, and ethnography in online environments, and mobile research methods;[92] and using audio or video recordings to evaluate aspects of implementation, delivery, and patient engagement.[93, 94] Our team will keep updated with developments in qualitative methodologies and discuss how these might be employed. For example, through our wider networks (e.g. the UCL Qualitative Health Research Network; Health Services Research UK; Rapid Research, Evaluation and Appraisal Lab).

For quantitative work, we may be able to apply standard statistical methods for analysing effectiveness to relevant person-level data. However, rapid timescales might mean this is either not possible or necessary, in which case we will consider using aggregated data. For example, our analyses of the effectiveness of the Special Measures for Quality regime[19] and prehospital video triage for stroke[14] used aggregated data that were already in the public domain. Where a service is new and data collection has only started, we might propose to use techniques for monitoring outcomes in real-time for formative feedback while the service is being adopted.[95] Where the impact of a service is not likely to be seen over the course of the evaluation, we may build mathematical models to predict longer term outcomes based on what is being seen over the shorter term.[96] We will also consider modelling approaches based on existing evidence if insufficient observational data are available from the service. We have a track-record of applying new or innovative quantitative methodologies (as illustrated during RSET (2018-2023)). These included applying a 'stacking' technique for combining multiple interrupted time series of z-scores,[19] change point analysis to identify notable shifts in time series of outpatient attendance at acute trusts,[22] dose-response modelling using mixed aggregated and patient-level data,[15] developing evaluation guidance or frameworks to enable new or ongoing evaluation of services.[22, 23, 26]

Our expertise in rapidly integrating multiple diverse data sources means we can quickly develop a thorough understanding of both 'what works at what cost' and the 'how and why' of innovation. For example, we can analyse why services may not be adopted as widely as expected, or why innovations may or may not be effective. We can examine the impact of innovations on outcomes, experiences, inequalities, and value for money, while also explaining how these impacts were achieved. Finally, we can describe what these changes mean to different stakeholder groups, in order to identify actionable lessons for other contexts.

3.12 Ensuring equality, diversity and inclusion within our research methods

Equality, diversity, and inclusion (EDI) is an established and growing priority in health and social care research.[97, 98] A focus on EDI helps identify important interventions for evaluation, improves understanding of their implementation and outcomes, and improves transferability and impact of learning.[97-99] Our approach, at programme and project level, reflects the value of involving diverse and underserved communities – e.g. in terms of sex, gender, ethnicity, disability, age, and socioeconomic status - in all aspects of our work.

3.12.1 Programme level plans

Governance of RSET (2023-2028) will provide important supports for EDI (Section 1.6). We have recruited experts in EDI to both our Stakeholder Advisory Board (SK + another stakeholder (TBC)) and core PPIE Panel (RM, SK). Discussions about RSET's (2023-2028) focus and approach will be facilitated by guidance on effective EDI.[100] In line with recommendations, we have identified PPIE leadership roles within RSET (2023-2028) (RM and PLN) and involvement processes to support EDI within our PPIE Panel. We have budgeted in order to enable effective inclusion of a diverse range of stakeholders at programme and project levels.

3.12.2 Project-specific plans

During discovery, and scoping and protocol development, we will consult with PPIE and evidence users to understand EDI implications of both the intervention and our evaluation. Evaluation teams and project steering groups will include a diverse range of evidence users, healthcare professionals and patients/carers. We will work with our stakeholder groups to ensure our projects address EDI issues (e.g. whether and how different communities were involved in planning, how implementation approaches accommodate and measure potential impact on EDI, and the intervention's impact on access, patient experience, engagement, and outcomes across different communities). Project research questions will address issues of inequalities and disparities, as appropriate. During scoping, we will draw on published frameworks (e.g. Health Inequalities Assessment Tool;[101] INCLUDE framework;[99] toolkit for increasing participation of Black, Asian and Minority Ethnic (BAME) groups in health and social care research).[102] These frameworks will help ensure that our projects are designed to be inclusive and address appropriate questions (e.g. considering underserved groups, barriers to inclusion and steps to overcome barriers). We may also draw on frameworks to support equity-focused analysis (e.g. EquIR).[59] We will: a) ensure that research materials are translated into a range of languages, b) conduct community outreach to recruit participants (e.g. through patient and staff organisations), and c) offer different modes of data collection (e.g. in person, telephone or online for interviews/focus groups/observations and online or paper surveys), offer different options for participation (e.g. participant only, participant and carer, or carer only interviews), and offer translation services.

When selecting study sites, we will ensure that sites represent a range of characteristics (including geography, ethnicity, rurality, socioeconomic status). Where appropriate, we will aim to ensure that our recruited samples of patients, carers and staff include a range of participants of different ages, gender, ethnicities, living circumstances, educational qualifications, work situations, and disability. Where possible, we will compare our study sample characteristics to national or local populations accessing services (e.g. see[15].

Throughout evaluations**,** we will work with our diverse stakeholders to reflect on progress of the work and ensure our findings address implications for EDI. Finally, our dissemination/mobilisation strategy prioritises identification of and engagement with all relevant audiences; we will therefore seek to ensure our target audiences reflect diverse and underserved communities, and we will work closely with a diverse range of stakeholders to share our lessons (e.g. as co-authors and co-presenters). Throughout all our activities, we will be facilitated by guidance on effective EDI.[100]

4. Co-production

4.1 Co-production approach

We will ensure that all our evaluations are co-produced with a range of stakeholders in order to ensure that findings will be relevant and of use to them. We will develop and maintain close collaborations with evidence-users such as healthcare providers and policymakers (whether local, regional or national), patient and public representatives, and third sector organisations. We will meet regularly with stakeholders throughout the project. This will be via dedicated project meetings and/or using existing networks, such as learning collaboratives. Our approach to co-production has been informed by previous learning on how to achieve rapid co-production e.g. the need to quickly build rapport and trust with a range of key stakeholders (Table 2).

Within our evaluations, we aim to build rapport and trust through regular meetings, open and honest discussions about ways of working, establishing independence, protecting anonymity of services that take part in evaluations when sharing findings, and sharing of interim findings throughout the project.[11, 13, 14, 21, 22, 25]

Our team have an extensive track record of collaborating with evidence users to co-design evaluations that meet stakeholder needs and achieve significant impact at national policy and service levels, e.g. by focusing on Patient Initiated Follow-up in the Outpatients study[22] or by conducting a 2-month phase 1 evaluation of COVID-19 remote home monitoring to provide evidence to inform national implementation of these services.[17, 74]

4.2 Critical distance

Maintaining critical distance is vital when co-producing evaluations (rapid or otherwise), to ensure independence of the research and unbiased findings (Section 1.2.2 sets out our experience managing tensions and sensitivities). We will continue to use the approach that we used in RSET (2018-2023) and non-rapid evaluations. This includes underlining the independence of the research at the outset and repeatedly through the study, including that findings will be published whether or not they are what stakeholders hope for. In our experience, most stakeholders respect our transparency in communicating this principle, and value receiving independent findings.

5. Resourcing and project management

5.1 Building the evaluation team

RSET (2018-2023) demonstrated the value of committed senior leadership, and suitably skilled and resourced teams, including project management.[13] As rapid evaluations often require intensive leadership and oversight,[11] we have developed an ***Executive Management Group*** (EMG)to expand leadership capacity (see Figure 1 and Section 4.3). As soon as a potential topic is identified by the funder, we will identify a member of the EMG to lead the project, liaise with the funder and service providers, and manage the team's progress with project manager (PLN).

Building on our experience of RSET (2018-2023),[11, 13] evaluations will be delivered by multi-skilled ***project teams*** with experience of rapid approaches. Teams will include quantitative, qualitative, mixed methods, and health economics researchers (drawn from the executive management team and additional researchers), a social care advisor, a project manager, and PPIE representatives. Where projects require context-specific knowledge or skills and/or additional research capacity, we will seek additional expertise/support using a proposed expert consultancy budget. We will allocate resources in accordance with the demand, size and timescales of each evaluation,[11, 13] and ensure that all team members understand their roles and responsibilities. We will hold weekly/biweekly team meetings for individual projects and establish clear methods of communication.[11] This approach to team building was tested during RSET (2018-2023) and was integral to the success of projects (e.g.[14, 15, 18, 19]). To ensure that the team's skills are continually developed and updated, we will assess training needs on a regular basis. Where appropriate, we may also collaborate with other rapid evaluation teams (e.g. to combine resources to complete rapid urgent requests).

So that our work suitably reflects stakeholder priorities and has maximum impact, for each evaluation we will form a ***Project Advisory Panel***. These groups will consist of relevant service and system representatives, and at least one person with lived experience of the innovation studied. These panels will meet with project teams at key stages of the project to provide independent advice on development of our work, i.e. to discuss evaluation design, protocol development, formative findings, and full findings. In addition, where appropriate, we will hold regular ***collaborator meetings***. These will take place every 4-6 weeks and bring together the project team and relevant evidence users (e.g. system or service leaders). Discussions will support protocol development and data collection, analysis, and interpretation. Research teams will share formative lessons to ensure rapid uptake of learning from evaluations and direct impact on policy/practice. Sections 9.1 and 9.2 illustrate how such stakeholder groups have contributed to the progress and impact of our work on RSET (2018-2023).

5.2 Managing resources (predominantly staff time)

Given the multiple projects involved, the director and executive management group will ensure a suitable balance of researcher time and activity across projects.

5.3 Project management

5.3.1 Programme management

The RSET (2023-2028) management structure is described in Figure 1. To ensure sufficient senior oversight, we propose a new governance structure. RSET (2023-2028) will be led by a single Director (NF), a Deputy Director (AR), and an executive management group, consisting of qualitative lead (AR), quantitative lead (CSJ), health economics lead (SM), PPIE leads (RM, PLN), senior project manager

(PLN), key researchers (HW, NC, TG) and a social care advisor (NCu). The executive management group will be co-chaired by NF and AR, and meet monthly to discuss progress of work and agree ongoing development of RSET (2023-2028). Project leads will be drawn from the executive management group. The whole RSET team – i.e. executive management group and project teams – will meet 4 times a year.

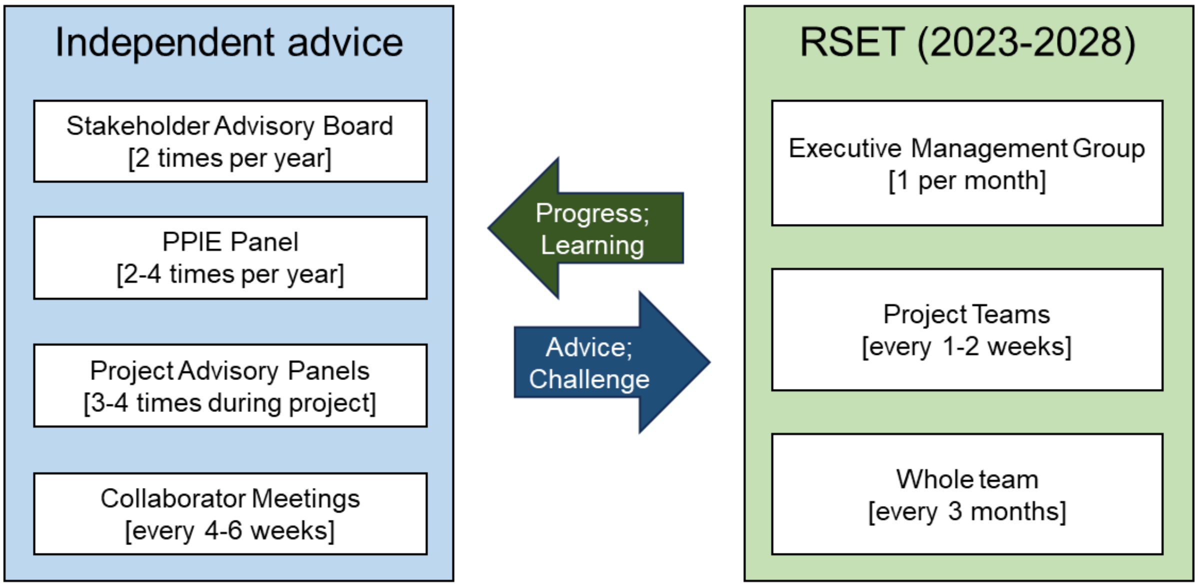

Figure 1. Overview of groups involved in management of RSET (2023-2028)

5.3.2 Quality control

Internal quality control processes will help ensure RSET (2023-2028) delivers rapid and robust evaluations and findings. Protocols will be peer reviewed by two external independent experts and the funder. Project teams will present evaluations to the wider RSET (2023-2028) team (e.g. proposed design, emerging findings), to permit external challenge and debate at key stages of evaluation development. A member of the executive management team external to the project will review draft final outputs/reports. As noted under Dissemination, we aim to publish peer-reviewed outputs, including high impact journal articles; this is an important form of external quality control. Further, formative sharing of findings with evidence users, e.g. using Stanford Lightning Reports (where evaluators rapidly share what works, what needs to change, and insights and recommendations on an innovation) [103] will ensure accuracy of our work.

5.3.3 Stakeholder Advisory Board

The proposed Stakeholder Advisory Board (SAB) will draw together expert leaders from across relevant sectors, including NIHR. Our SAB will have independent Co-Chairs (Rob Webster and an SAB member with public and patient expertise (TBC); details below). The SAB will perform two main functions:

1. Oversight: the SAB will meet online twice a year to review programme and project progress and the programme's priority topics, proposing amendments if appropriate. Recommendations will be recorded and shared with NIHR, and our implementation of these discussed with the SAB.
2. Project advice and support: the SAB members will provide ad hoc advice reflecting their expertise, including identification of and access to services, inequalities, PPIE, relevant datasets, and optimal settings for and approaches to dissemination of findings.

The SAB will consist of some continuing members of RSET (2018-2023) SAB and some new members (highlighted with an asterisk*) to enhance the range of expertise. The SAB includes members with a range of expertise in health and social care, public and patient involvement and equality, diversity and inclusion.

- **Rob Webster** (Co-Chair): CEO, NHS West Yorkshire Integrated Care Board
- **Co-Chair TBC**
- **Geraldine Clarke***: Senior Analytical Manager, The Health Foundation
- **Catherine Dale***: Deputy Coordination Director, The AHSN Network; Programme Director, Health Innovation Network
- **Jiri Chard***: Senior Analytical Lead, Analytical Services, NHS England
- **Steve Feast**: Senior Advisor, Lexington Communications; Honorary Professor, University of East Anglia; Non-Executive Member, Suffolk and NE Essex ICB
- **Catherine French**: Associate Director, KHP Cardiovascular and Respiratory Partnership Programme
- **Leon Goddard*:** Senior Adviser: Commissioning and Markets, Partners in Care and Health (PCH)
- **Expert in EDI TBC**
- **Sarah Knowles***: Independent PPIE expert, Knowledge Mobilisation Research Fellow, University of York
- **Kirsten Major**: Chief Executive, Sheffield Teaching Hospital NHS Foundation Trust
- **Esther Mugweni**: Deputy Head of Evaluation, Research and Evaluation Division, Public Health Data, Knowledge and Research Directorate, Public Health Wales
- **Jenny Shand**: Chief Strategy Officer, UCLPartners
- **Allison Smith**: Head of Research and Insight, Royal Voluntary Service
- **Ruth Burnett***: Executive Medical Director, Leeds Community Healthcare Trust and Leeds GP Confederation
- **Denise Tyrrell**: Deputy Director of Operations and Delivery, National COVID-19 Vaccines Deployment Programme, NHS England
- **Sarah Walter*:** Director, ICS Network, NHS Confederation
- **Arne Wolters**: Head of Improvement Analytics, NHS England; Cumbria, Northumberland, Tyne and Wear (CNTW) NHS Foundation Trust; NIHR North East and North Cumbria Applied Research Collaboration (ARC).

5.3.4 Project management

RSET (2018-2023) demonstrated the importance of project management resource in delivering rapid projects from initial scoping through to mobilising lessons from the work.[11, 13] We have therefore doubled our project management capacity, to enhance our efficiency and effectiveness at programme and project levels. Every project will have a project plan and timeline agreed with the funder and key stakeholders, regular team meetings with set agendas to enable progress against plans, and dedicated project management support. Project teams will meet weekly or fortnightly and work to agreed timelines.

6. Project/research timetable

We will aim to produce around two evaluations per year for five years. The RSET (2018-2023) team has substantial experience and expertise in working across multiple simultaneous projects to tight deadlines. The first six months of RSET (2023-2028) will include some parallel 'programme set-up' activities e.g. initial engagement with NIHR and other newly-launched rapid teams, and recruiting additional members to our core PPIE Panel. We recognise that the evaluations must be tailored to the innovation and context, and will work closely with local collaborators and NIHR to agree the scope and scale of these projects. Timings may be influenced by how the innovation is introduced, and the degree of support from stakeholders to conduct an evaluation. Below, we set out broad timelines for the main processes involved in evaluations (see Figure 2 for Gantt chart; further detail on research stages is in Section 2).

- Discovery phase: Duration - aim to complete within 2-4 weeks.
- Scoping and Protocol Development (including peer review and HSDR approval): Duration - 2 weeks to 6 months.
- Ethics and governance approvals: Duration - up to 4 months. However, we will start research that can begin without approvals (e.g. literature review, staff fieldwork) during this time.
- Data collection and analysis: Duration 2 to 12 months.
- Formative feedback: Duration - throughout evaluation.
- Summative feedback: Duration - 9 to 18 months.

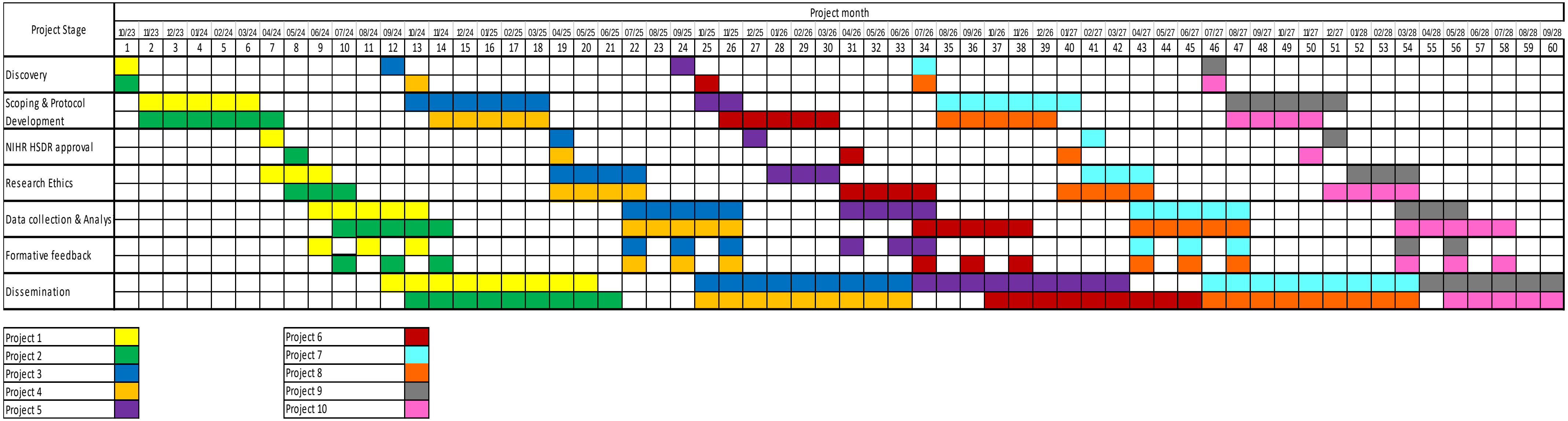

Figure 2. Gantt chart for evaluation projects

Note. To maximise impact of projects, dissemination/mobilisation activity may extend to 18 months beyond completion of research.

7. Dissemination, outputs and anticipated impact

In RSET (2023-2028), we will consult with evidence-users, patients/the public, and the Nuffield Comms team during Scoping to develop a tailored dissemination/mobilisation strategy for each project. These will include objectives, success criteria, audiences, policy context, risks, and opportunities, proposed activities, deadlines, and responsibilities. We will work with representatives on our SAB (including the NHS Confederation) to learn which findings are most important to different groups and how best to share findings with evidence users and their networks. This approach has previously supported rapid engagement with and uptake of learning, to inform future service developments (see Section 9.1 for an example of rapid work with high impact). Through our continued dissemination of findings, we aim to extend our reputation as a trusted source of expertise on rapid evaluation, thus facilitating increased opportunities for engagement and impact.

7.1 Outputs

Reflecting our RSET (2018-2023) dissemination activity, we will produce a range of outputs tailored to our audiences, to maximise understanding of and engagement with our findings. We will work with evidence-users to develop interim feedback through meetings, analysis workshops, and slide packs (e.g.[104, 105]). We will publish findings rapidly using preprints (e.g.[106, 107]), complemented with peer-reviewed journal articles (e.g.[13, 17, 24, 25, 27, 28, 69, 70, 74, 75, 85, 108, 109]), final reports (e.g.[14-16, 19, 20]), accessible summaries,[21] including blogs and Q&As (e.g.[110, 111]), reviews, webinars,[48] and short films. We will target popular media, e.g. twitter, and the Nuffield Trust newsletter, which reaches 9,000 subscribers every week. Our learning from RSET (2018-2023) has demonstrated the value of this embedded approach, resulting in creative outputs such as the explainer on virtual wards, which (as of April 2023) has had 5,300 page views and the briefing and accompanying explainer on Patient Initiated Follow Up (PIFU), which have had 1,700 and 1,400 page views respectively. Both explainers made use of infographics designed in-house by the Nuffield Trust Comms team, which enhanced shareability across social media and in presentations. The Nuffield Trust Comms team will embed communications into projects at an opportune time, by reviewing project documents and “interviewing” researchers to inform communications planning and to develop and maintain 1:1 relationships.

Based on what we learn from our SAB and project-specific evidence users, we will share findings in a variety of interactive settings. Examples include project-specific webinars, learning events with local teams and regional leadership groups e.g. through AHSNs, and round-table discussions between national and service leaders and evaluation leads. We will continue to work with the NHS Confederation to disseminate findings through their networks, as appropriate, including with all 42 Integrated Care Systems.

To share learning on rapid evaluation more widely with evidence users and researchers, we will continue our annual rapid evaluation conference (in collaboration with Nuffield Trust, the Health Foundation, and other Rapid Evaluation Teams – four delivered to date), and build on our joint workshop, which we held with BRACE in June 2023 (see website).

We will interact regularly with other rapid service evaluation teams funded by the NIHR HSDR programme. In addition to potential formal collaborations, we will aim to meet with the other teams at least once a year to share learning and good practice. We will also meet and interact with other teams involved in rapid evaluation that are not directly under the HSDR umbrella, including the Improvement Analytics Unit at the Health Foundation, the NIHR North West London Patient Safety Research Collaboration at Imperial College London, and the NIHR Central London Patient Safety Research Collaboration at University College London Hospitals NHS Foundation Trust.

7.2 Anticipated impact

We will deliver evaluations that produce rigorous, timely findings. Our lessons will be shared widely and shape national policy, local service organisation and delivery, and the research landscape; it will also help enhance evidence users' capacity to engage with evidence. We will build on our experience of enabling rapid, national impact from RSET (2018-2023). For example, our findings influenced the national roll-out of COVID-19 remote home monitoring services,[15] and influenced an NHSE pilot of prehospital triage services across England[14] (Table 1). RSET's successes (2018-2023) contributed to increased demand for rapid evaluation, reflected in evidence users requesting and funding additional work. For example, NHSE provided additional funds to projects (e.g. COVID-19 remote home monitoring[15] and Outpatient innovations)[22] and the NIHR commissioned additional rapid evaluation teams. We have also had success in securing funding to extend our RSET (2018-2023) research (e.g. Prehospital Triage for stroke).[48]

8. Approvals

Our team have extensive experience in obtaining necessary governance approvals across different sectors (health and social care, prisons) and at different scales (national, regional, local). Our experience includes navigating data access approvals (Section 8.1), NHS/HRA ethics approval and HMPPS NRC approvals (Section 8.2). We are keenly aware of the ethical issues that may arise and are expert in addressing these issues and obtaining approvals (Section 8.2).

8.1 Data approvals

We are experienced in obtaining approvals to access quantitative datasets. Data requests will be submitted to appropriate data owners (e.g. NHS England, Healthcare Quality Improvement Partnership (HQIP)) for consideration. In RSET (2018-2023), we negotiated an innovative data sharing agreement with NHS Digital to use English hospital datasets for the whole programme of evaluations (instead of applying for separate approvals for each evaluation). We will use a similar approach in RSET (2023-2028). This will support rapid scoping and planning of new work and speed up data analysis. A data agreement is likely to be in place far more quickly than for RSET (2018-2023), as the application model is now well-defined, and has been repeatedly tested, including through a number of amendments.

We are actively planning for changes to how NHS data will be supplied to researchers over the coming years, i.e. accessing data through Trusted Research Environments (TREs). Members of our team recently worked within two such systems built around primary care data (OpenSAFELY, and the Clinical Practice Research Datalink (CPRD)).[112] We have held initial discussions with NHS England to anticipate a future move that may be required to access their new Secure Data Environment, and to assess its impact on an agreement for RSET (2023-2028).

8.2 Ethical and research governance approvals

8.2.1 Our approach

In RSET (2018-2023), we obtained ethical approvals for research spanning primary and secondary healthcare, social care and prisons. For instance, within the COVID-19 remote home monitoring study, we obtained governance approvals for research to be conducted across 28 sites (primary and secondary care) in England, during the pandemic.[15]

Ethical approvals will be obtained for both qualitative and quantitative research. Our strategy will reflect the nature of each evaluation, in terms of the data collected and the context: a) for studies where data are to be collected from service users, we will apply for NHS or Social Care Research Ethics Committee (REC) and Health Research Authority approval; b) where NHS or Social Care REC approval is not necessary, University REC approval will be obtained, or c) for components of evaluations including staff only, we will obtain approval for our study as a ’service evaluation’. This will allow lower risk research components to begin whilst NHS ethical approval is being sought.

8.2.2 Mitigating possible ethical issues

Qualitative and primary quantitative data collection approaches raise several ethical issues. This relates to the potential sensitivity of topics addressed, the fact that we will obtain data from health and care staff, patients, service users, and the public, and the associated issues of obtaining informed consent and capacity to participate. The team are highly experienced in managing these issues. We will work with PPIE and evidence users to ensure that evaluations and research materials are appropriately designed, sensitively presented, and clearly state participants’ rights (e.g. to study information, confidentiality, and withdrawal). Personal or sensitive data (e.g. contact details and sociodemographic characteristics) will be transferred directly into and stored on the secure UCL Data Safe Haven. We will fully anonymise findings. We will signpost participants to support services where appropriate, following advice from PPIE and stakeholders. For secondary analysis of quantitative data (such as HES data and national audits), we will request data that have been processed to minimise identifiability.

9. Success criteria and barriers to proposed work

There are several factors which will indicate success for our proposed work. These factors differ for different stages of the project. One of the main goals of our evaluations will be to make a positive impact on health and social care services.

To provide demonstrable impact, our evaluations first need to be successfully completed. In order to successfully complete projects, we will need to a) identify and engage key stakeholders on programme and project-specific levels, b) obtain necessary approvals, including funder sign off, governance and ethical approvals, and c) meet data collection targets for individual evaluations.

Mobilising knowledge for impact begins when a research project begins. Success criteria for dissemination include identification of key stakeholder groups (and ongoing development of an inclusive dissemination list), sharing of formative findings as they emerge, and publication of summative findings through journal articles, blogs, etc. Success criteria for demonstrating impact include presenting and sharing findings with key policy makers and other stakeholders, observing demonstrable changes to health and care services, and findings being cited in policy documents. However, there are some barriers to our proposed work. We outline these, together with potential mitigations, in Table 4.

Table 4. Potential barriers to proposed work and mitigations

Barriers	**Mitigations**
Delays obtaining ethical and governance approvals.	• Team experienced in obtaining ethical, data access and governance approvals (Section 8). • Close working with university research offices and ethics committees regarding rapid nature of programme. • Plan flexibility into data collection timings in case of delays.
Challenges rapidly obtaining buy in and access to stakeholders (including PPIE) and sites	• Build relationships with key stakeholders (including PPIE and underserved groups) from Discovery onwards

	(e.g. Sections 2.12 and 4.1), and work with them to gain access • SAB and PPIE Panel provide advice and support in co-producing and delivering evaluations. • Continuous learning (e.g. via PIRIT) will allow us to identify strategies that help address challenges in supporting PPIE in rapid evaluations.
External factors such as severe pressure on services, or COVID-19, which may have consequences for our evaluations	• Plan contingencies into protocols to mitigate such risks, e.g. remote data collection. • Develop and deliver evaluations that are sensitive to capacity/resource issues, minimising impact on staff and service time and resources. • If services cease to run during these situations, pause studies until they are able to resume.

References

1. Department of Health & Social Care. Policy paper. Integration and innovation: Working together to improve health and social care for all 2021. Retrieved 22/11/2022 from https://www.gov.uk/government/publications/working-together-to-improve-health-and-social-care-for-all/integration-and-innovation-working-together-to-improve-health-and-social-care-for-all-html-version#delivering-for-patients-citizens-and-local-populations----supporting-implementation-and-innovation

2. Ramalingam B, Prabhu J. Innovation, development and COVID-19: Challenges, opportunities and ways forward: OECD; 2020. Retrieved 22/11/2022 from https://www.oecd.org/coronavirus/policy-responses/innovation-development-and-covid-19-challenges-opportunities-and-ways-forward-0c976158/

3. Care Quality Commission. Enabling innovation and adoption in health and social care. Developing a shared view.: NHS England and Improvement; 2021. Retrieved 22/11/2022 from https://www.cqc.org.uk/sites/default/files/20210208_InnovationPrinciples_report.pdf

4. Oxtoby K. Covid-19:"Life on hold" for NHS patients needing musculoskeletal care. Bmj-Brit Med J. 2021;373. doi: 10.1136/bmj.n1616

5. Leite H, Lindsay C, Kumar M. COVID-19 outbreak: Implications on healthcare operations. TQM J. 2020. doi: 10.1108/TQM-05-2020-0111

6. Hutchings R. The impact of Covid-19 on the use of digital technology in the NHS: Nuffield Trust; 2020. Retrieved 22/11/2022 from https://www.nuffieldtrust.org.uk/research/the-impact-of-covid-19-on-the-use-of-digital-technology-in-the-nhs

7. NHS England. Responding to new challenges and opportunities No date. Retrieved 22/11/2022 from https://www.england.nhs.uk/ournhspeople/online-version/challenges-and-opportunities/

8. Care Quality Commission. The recovery challenges for NHS hospital services 2021. Retrieved 22/11/2022 from https://www.cqc.org.uk/news/stories/recovery-challenges-nhs-hospital-services

9. Tallack C. After the pandemic: Recovery and reform. Looking to the long term: The Health Foundation; 2021. Retrieved 30th March 2023 from https://www.health.org.uk/news-and-comment/blogs/after-the-pandemic-recovery-and-reform

10. Charles A, Ewbank L. The road to renewal: five priorities for health and care: The King's fund; 2021. Retrieved 22/11/2022 from https://www.kingsfund.org.uk/publications/covid-19-road-renewal-health-and-care

11. Walton H, Crellin N, Sidhu M, Sherlaw-Johnson C, Herlitz L, Litchfield I, et al. Undertaking rapid evaluations during the COVID-19 pandemic: lessons from evaluating COVID-19 remote home monitoring services. Frontiers in Sociology 2023;8:982946. doi: 10.3389/fsoc.2023.982946

12. Oliver K, Kothari A, Mays N. The dark side of coproduction: do the costs outweigh the benefits for health research? Health Res Policy Syst. 2019;17(1):1-10. doi: 10.1186/s12961-019-0432-3

13. Smith J, Ellins J, Sherlaw-Johnson C, Vindrola-Padros C, Appleby J, Morris S, et al. Essay: Rapid evaluation of service innovations in health and social care: key considerations In: Raine et al, editor. Challenges, solutions and future directions in the evaluation of service innovations in health care and public health. 4: Health Serv Deliv Res; 2022 (Accepted).

14. Ramsay AI, Ledger J, Tomini SM, Hall C, Hargroves D, Hunter P, et al. Prehospital video triage of potential stroke patients in North Central London and East Kent: rapid mixed-methods service evaluation. Health Soc Care Deliv Res. 2022;10(26):1-114. doi: 10.3310/IQZN1725

15. Fulop N, Walton H, Crellin N, Georghiou T, Herlitz L, Litchfield I, et al. A rapid mixed methods evaluation of remote home monitoring models during the COVID-19 pandemic in England Health Soc Care Deliv Res. 2022. doi: 10.3310/hsdr-tr-132703

16. Sidhu M, Litchfield I, Miller R, Fulop N, Janta B, Tanner J, et al. A mixed methods rapid evaluation investigating the use of pulse oximetry in care homes across England to manage residents

with COVID-19 and long-term health conditions. Health Soc Care Deliv Res. 2022. doi: 10.3310/PQWC3425
17. Vindrola-Padros C, Sidhu MS, Georghiou T, Sherlaw-Johnson C, Singh KE, Tomini SM, et al. The implementation of remote home monitoring models during the COVID-19 pandemic in England. EClinicalMedicine. 2021;34:100799. doi: 10.1016/j.eclinm.2021.100799
18. Rapid Service Evaluation Team. Evaluating a youth violence intervention programme Nuffield Trust, 2022. Retrieved 30th March 2023 from https://www.nuffieldtrust.org.uk/project/evaluating-a-youth-violence-intervention-programme
19. Fulop N, Capelas Barbosa E, Hill M, Ledger J, Ng PL, Sherlaw-Johnson C, et al. Topic Report: Rapid Evaluation of the Special Measures for Quality and Challenged Provider Regimes: A Mixed-Methods Study 2020. Retrieved 30th March 2020 from https://www.nuffieldtrust.org.uk/files/2020-09/rset-smq-final-report-reformat-16-sept-2020.pdf
20. Walton H, Harshfield A, Tomini S, Ng P, Cowan K, Sussex J, et al. Innovations in Adult Social Care and Social Work Report 2019. Retrieved 30th March 2023 from https://www.nuffieldtrust.org.uk/files/2019-11/adult-social-care-innovations-horizon-scanning-report-final-13112019.pdf
21. Reed S, Crellin N. Patient-initiated follow up: will it free up capacity in outpatient care? 2022. Retrieved 30th March 2023 from https://www.nuffieldtrust.org.uk/research/patient-initiated-follow-up-will-it-free-up-capacity-in-outpatient-care
22. Rapid Service Evaluation Team. Investigating innovations in outpatient services Nuffield Trust, 2022. Retrieved 30th March 2023 from https://www.nuffieldtrust.org.uk/project/investigating-innovations-in-outpatient-services
23. Rapid Service Evaluation Team. Peer supported social care in prisons Nuffield Trust, 2022. Retrieved 30th March 2023 from https://www.nuffieldtrust.org.uk/project/peer-supported-social-care-in-prisons
24. Vindrola-Padros C, Ledger J, Barbosa Capelas E, Fulop NJ. The implementation of improvement interventions for" low performing" and" high performing" organisations in health, education and local government: a phased literature review. Int J Health Policy Manag. 2020. doi: 10.34172/ijhpm.2020.197
25. Vindrola-Padros C, Ledger J, Hill M, Tomini S, Spencer J, Fulop NJ. The special measures for quality and challenged provider regimes in the English NHS: a rapid evaluation of a national improvement initiative for failing healthcare organisations. Int J Health Policy Manag. 2022. doi: 10.34172/ijhpm.2022.6619
26. Appleby J, Georghiou T, Ledger J, Rolewicz L, Sherlaw-Johnson C, SM T, et al. Youth violence intervention programme for vulnerable young people attending emergency departments in London: a rapid evaluation. NIHR Health and Social Care Delivery Research Topic report. 2022. doi: 10.3310/hsdr-tr-133641
27. Cowan K, Fulop NJ, Harshfield A, Ng PL, Ntouva A, Sidhu M, et al. Rapid prioritisation of topics for rapid evaluation: the case of innovations in adult social care and social work. Health Res Policy Syst. 2021;19(1):1-9. doi: 10.1186/s12961-021-00693-2
28. Walton H, Tomini SM, Sherlaw-Johnson C, Ng PL, Fulop NJ. How is Social Care Provided in Adult Prisons in England and Wales? Br J Soc Work. 2022. doi: 10.1093/bjsw/bcac145
29. Walton H, Spector A, Roberts A, Williamson M, Bhatt J, Tombor I, et al. Developing strategies to improve fidelity of delivery of, and engagement with, a complex intervention to improve independence in dementia: a mixed methods study. BMC Med Res Methodol. 2020;20(1):1-19. doi: 10.1186/s12874-020-01006-x
30. Walton H, Tombor I, Burgess J, Groarke H, Swinson T, Wenborn J, et al. Measuring fidelity of delivery of the Community Occupational Therapy in Dementia-UK intervention. BMC Geriatr. 2019;19(1):1-13. doi: 10.1186/s12877-019-1385-7

31. Orrell M, Hoe J, Charlesworth G, Russell I, Challis D, Moniz-Cook E, et al. Support at Home: Interventions to Enhance Life in Dementia (SHIELD)–evidence, development and evaluation of complex interventions. Programme Grants for Applied Research. 2017;5(5). doi: 10.3310/pgfar05050
32. Wenborn J, Hynes S, Moniz-Cook E, Mountain G, Poland F, King M, et al. Community occupational therapy for people with dementia and family carers (COTiD-UK) versus treatment as usual (Valuing Active Life in Dementia [VALID] programme): study protocol for a randomised controlled trial. Trials. 2016;17(1):1-10. doi: 10.1186/s13063-015-1150-y
33. Sherlaw-Johnson C, Crellin N, Hutchings R, Oung C, Rolewicz L, L E, et al. Evaluation of the Care City Wave 2 test bed: Nuffield Trust; 2021. Retrieved 27/03/2023 from https://www.nuffieldtrust.org.uk/files/2021-05/care-city-full-evaluation-report-web.pdf
34. Sherlaw-johnson C, Crump H, Curry N, C P, R M. Transforming health care in nursing homes: An evaluation of a dedicated primary care service in outer east London: Nuffield Trust; 2018. Retrieved 27/03/2023 from https://www.nuffieldtrust.org.uk/research/transforming-health-care-in-nursing-homes-an-evaluation-of-a-dedicated-primary-care-service-in-outer-east-london
35. Bardsley M, J B, LJ C, J D, E E, T G, et al. Predicting social care costs: a feasibility study: Nuffield Trust; 2017. Retrieved 27/03/2023 from
36. Georghiou T, S D, A D, M B. Understanding patterns of health and social care at the end of life: Nuffield Trust; 2012. Retrieved 27/03/2023 from https://www.nuffieldtrust.org.uk/files/2017-01/understanding-patterns-health-social-care-end-of-life-full-web-final.pdf
37. Fulop NJ, Ramsay AI, Perry C, Boaden RJ, McKevitt C, Rudd AG, et al. Explaining outcomes in major system change: a qualitative study of implementing centralised acute stroke services in two large metropolitan regions in England. Imp Sci. 2016;11(1):1-13. doi: 10.1186/s13012-016-0445-z
38. Fulop NJ, Ramsay AI, Vindrola-Padros C, Aitchison M, Boaden RJ, Brinton V, et al. Reorganising specialist cancer surgery for the twenty-first century: a mixed methods evaluation (RESPECT-21). Imp Sci. 2016;11(1):1-14. doi: 10.1186/s13012-016-0520-5
39. Morris S, Hunter RM, Ramsay AI, Boaden R, McKevitt C, Perry C, et al. Impact of centralising acute stroke services in English metropolitan areas on mortality and length of hospital stay: difference-in-differences analysis. Bmj-Brit Med J. 2014;349:g4757. doi: 10.1136/bmj.g4757
40. Ramsay AI, Morris S, Hoffman A, Hunter RM, Boaden R, McKevitt C, et al. Effects of centralizing acute stroke services on stroke care provision in two large metropolitan areas in England. Stroke. 2015;46(8):2244-51. doi: 10.1161/STROKEAHA.115.009723
41. Vindrola-Padros C, Ramsay AI, Perry C, Darley S, Wood VJ, Clarke CS, et al. Implementing major system change in specialist cancer surgery: The role of provider networks. J Health Serv Res Policy. 2021;26(1):4-11. doi: 10.1177/1355819620926553
42. Morris S, Hudson E, Bloom L, Chitty LS, Fulop NJ, Hunter A, et al. Co-ordinated care for people affected by rare diseases: the CONCORD mixed-methods study. Health Soc Care Deliv Res. 2022;10(5). doi: 10.3310/LNZZ5321
43. Simpson A, Bloom L, Fulop NJ, Hudson E, Leeson-Beevers K, Morris S, et al. How are patients with rare diseases and their carers in the UK impacted by the way care is coordinated? An exploratory qualitative interview study. Orphanet J Rare Dis. 2021;16(1):1-12. doi: 10.1186/s13023-020-01664-6
44. Walton H, Hudson ME, Simpson A, Ramsay AI, Kai J, Morris S, et al. Defining coordinated care for people with rare conditions: a scoping review. Int J Integr Care. 2020;20(2):14. doi: 10.5334/ijic.5464
45. Walton H, Simpson A, Ramsay AI, Hudson E, Hunter A, Jones J, et al. Developing a taxonomy of care coordination for people living with rare conditions: a qualitative study. Orphanet J Rare Dis. 2022;17(1):1-25. doi: 10.1186/s13023-022-02321-w
46. Walton H, Simpson A, Ramsay AI, Hunter A, Jones J, Ng PL, et al. Development of models of care coordination for rare conditions: a qualitative study. Orphanet J Rare Dis. 2022;17(1):1-24. doi: 10.1186/s13023-022-02190-3

47. Fulop NJ, Ramsay A, Hunter RM, McKevitt C, Perry C, Turner SJ, et al. Evaluation of reconfigurations of acute stroke services in different regions of England and lessons for implementation: a mixed-methods study. Health Serv Del Res. 2019;7(7). doi: 10.3310/hsdr07070
48. Ramsay A, Ng PL, Fulop N. PHOTONIC:Prehospital triage for suspected stroke patients 2022. Retrieved 30th March 2023 from https://www.ucl.ac.uk/epidemiology-health-care/research/applied-health-research/research/health-care-organisation-and-management-group/photonic
49. National Institute for Health and Care Research. UK Standards for Public Involvement 2022. Retrieved 09/12/2022 from https://sites.google.com/nihr.ac.uk/pi-standards/home
50. Cardiff University. Public involvement in research impcat toolkit (PIRIT) 2023. Retrieved 22/03/2023 from https://www.cardiff.ac.uk/marie-curie-research-centre/patient-and-public-involvement/public-involvement-in-research-impact-toolkit-pirit
51. Shaping our lives. Shaping our lives 2023. Retrieved 23/02/2023 from https://shapingourlives.org.uk/
52. National Institute for Health and Care Research. Opportunities for public involvement in NHS, public health and social care research 2022. Retrieved 23/12/2022 from https://www.peopleinresearch.org/
53. National Institute for Health and Care Research. Payment guidance for researchers and professionals 2022. Retrieved 23/12/2022 from https://www.nihr.ac.uk/documents/payment-guidance-for-researchers-and-professionals/27392#Payment_and_reward
54. Davidoff F, Dixon-Woods M, Leviton L, Michie S. Demystifying theory and its use in improvement. BMJ Qual Saf. 2015;24(3):228-38. doi: 10.1136/bmjqs-2014-003627
55. Swan J, Newell S, Nicolini D. Mobilizing knowledge in healthcare: Challenges for management and organization: Oxford University Press; 2016.
56. Greenhalgh T, Abimbola S. The NASSS framework-a synthesis of multiple theories of technology implementation. Stud Health Technol Inform. 2019;263:193-204. doi: 10.3233/SHTI190123
57. Greenhalgh T, Robert G, Macfarlane F, Bate P, Kyriakidou O. Diffusion of innovations in service organizations: systematic review and recommendations. Milbank Q. 2004;82(4):581-629. doi: 10.1111/j.0887-378X.2004.00325.x
58. Lehoux P, Blume S. Technology assessment and the sociopolitics of health technologies. J Health Polit Policy Law. 2000;25(6):1083-120. doi: 10.1215/03616878-25-6-1083
59. Eslava-Schmalbach J, Garzón-Orjuela N, Elias V, Reveiz L, Tran N, Langlois E. Conceptual framework of equity-focused implementation research for health programs (EquIR). Int J Equity Health. 2019;18(1):1-11. doi: 10.1186/s12939-019-0984-4
60. Nilsen P. Making sense of implementation theories, models, and frameworks. Imp Sci. 2020;10:53-79. doi: 10.1186/s13012-015-0242-0
61. Kitson AL, Rycroft-Malone J, Harvey G, McCormack B, Seers K, Titchen A. Evaluating the successful implementation of evidence into practice using the PARiHS framework: theoretical and practical challenges. Imp Sci. 2008;3(1):1-12. doi: 10.1186/1748-5908-3-1
62. May CR, Mair F, Finch T, MacFarlane A, Dowrick C, Treweek S, et al. Development of a theory of implementation and integration: Normalization Process Theory. Imp Sci. 2009;4(1):1-9. doi: 10.1186/1748-5908-4-29
63. Moore GF, Audrey S, Barker M, Bond L, Bonell C, Hardeman W, et al. Process evaluation of complex interventions: Medical Research Council guidance. Bmj-Brit Med J. 2015;350:h1258. doi: 10.1136/bmj.h1258
64. Proctor E, Silmere H, Raghavan R, Hovmand P, Aarons G, Bunger A, et al. Outcomes for implementation research: conceptual distinctions, measurement challenges, and research agenda. Adm Policy Ment Health. 2011;38(2):65-76. doi: 10.1007/s10488-010-0319-7
65. Damschroder LJ, Aron DC, Keith RE, Kirsh SR, Alexander JA, Lowery JC. Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. Imp Sci. 2009;4(1):1-15. doi: 10.1186/1748-5908-4-50

66. May CR, Eton DT, Boehmer K, Gallacher K, Hunt K, MacDonald S, et al. Rethinking the patient: using Burden of Treatment Theory to understand the changing dynamics of illness. BMC Health Serv Res. 2014;14(1):1-11. doi: 10.1186/1472-6963-14-281

67. Cane J, O'Connor D, Michie S. Validation of the theoretical domains framework for use in behaviour change and implementation research. Imp Sci. 2012;7(1):1-17. doi: 10.1186/1748-5908-7-37

68. Michie S, Van Stralen MM, West R. The behaviour change wheel: a new method for characterising and designing behaviour change interventions. Imp Sci. 2011;6(1):1-12. doi: 10.1186/1748-5908-6-42

69. Walton H, Vindrola-Padros C, Crellin NE, Sidhu MS, Herlitz L, Litchfield I, et al. Patients' experiences of, and engagement with, remote home monitoring services for COVID-19 patients: A rapid mixed-methods study. Health Expect. 2022;25(5):2386-404. doi: 10.1111/hex.13548

70. Sidhu M, Walton H, Crellin N, Ellis J, Herlitz L, Litchfield I, et al. Staff experiences of training and delivery of remote home monitoring services for patients diagnosed with COVID-19: a mixed methods study. J Health Serv Res Policy. Forthcoming (accepted). doi: pending publication

71. Vindrola-Padros C, Chisnall G, Cooper S, Dowrick A, Djellouli N, Symmons SM, et al. Carrying out rapid qualitative research during a pandemic: emerging lessons from COVID-19. Qual Health Res. 2020;30(14):2192-204. doi: 10.1177/1049732320951526

72. Guetterman TC, Fetters MD, Creswell JW. Integrating quantitative and qualitative results in health science mixed methods research through joint displays. Ann Fam Med. 2015;13(6):554-61. doi: 10.1370/afm.1865

73. Yin R. Case study research: Design and methods. Thousand Oaks, CA: Sage; 2009.

74. Vindrola-Padros C, Singh KE, Sidhu MS, Georghiou T, Sherlaw-Johnson C, Tomini SM, et al. Remote home monitoring (virtual wards) for confirmed or suspected COVID-19 patients: a rapid systematic review. EClinicalMedicine. 2021;37:100965. doi: 10.1016/j.eclinm.2021.100965

75. Sherlaw-Johnson C, Georghiou T, Morris S, Crellin NE, Litchfield I, Massou E, et al. The impact of remote home monitoring of people with COVID-19 using pulse oximetry: A national population and observational study. EClinicalMedicine. 2022;45:101318. doi: 10.1016/j.eclinm.2022.101318

76. Sherlaw-Johnson C, Georhiou T, Spencer J, Reed S, Crellin N, Oung C, et al. Patient-initiated follow up: findings from phase 1 of a mixed-methods evaluation: Nuffield Trust; 2022. Retrieved 22/03/2023 from https://www.nuffieldtrust.org.uk/research/patient-initiated-follow-up-findings-from-phase-1-of-a-mixed-methods-evaluation

77. National Institute for Health and Care Excellence. Guide to the methods of technology appraisal 2013 2013. Retrieved 22/03/2023 from https://www.nice.org.uk/process/pmg9/chapter/foreword

78. Center for the Evaluation of Value and Risk in Health. CEA Registry 2018. Retrieved 22/03/2023 from https://cevr.tuftsmedicalcenter.org/databases/cea-registry

79. NHS England. National cost collection for the NHS No date. Retrieved 09/12/2022 from https://www.england.nhs.uk/costing-in-the-nhs/national-cost-collection/

80. Jones KC, Burns A. Unit costs of health and social care 2021 2021. Retrieved 30th March 2023 from https://www.pssru.ac.uk/project-pages/unit-costs/unit-costs-of-health-and-social-care-2021/

81. Hutchings R, Sherlaw-Johnson C. Supporting patient engagement with digital health care innovations. Lessons from the Care City test bed: Nuffield Trust; 2022. Retrieved 19/12/2022 from https://www.nuffieldtrust.org.uk/files/2022-04/1651161363_supporting-patient-engagement-web.pdf

82. Scobie S, Spencer J, Raleigh V. Ethnicity coding in English health service datasets: Nuffield Trust; 2021. Retrieved 19/12/2022 from https://www.nuffieldtrust.org.uk/files/2021-06/1622731816_nuffield-trust-ethnicity-coding-web.pdf

83. Georghiou T, Spencer J, Scobie S, Raleigh V. The elective care backlog and ethnicity: Nuffield Trust; 2022. Retrieved 19/12/2022 from https://www.nuffieldtrust.org.uk/files/2022-11/nuffield-trust-elective-backlog-and-ethnicity-web.pdf
84. Bouttell J, Craig P, Lewsey J, Robinson M, Popham F. Synthetic control methodology as a tool for evaluating population-level health interventions. J Epidemiol Commun H. 2018;72(8):673-8. doi: 10.1136/jech-2017-210106
85. Georghiou T, Sherlaw-Johnson C, Massou E, Morris S, Crellin NE, Herlitz L, et al. The impact of post-hospital remote monitoring of COVID-19 patients using pulse oximetry: A national observational study using hospital activity data. EClinicalMedicine. 2022;48:101441. doi: 10.1016/j.eclinm.2022.101441
86. White IR, Royston P, Wood AM. Multiple imputation using chained equations: issues and guidance for practice. Stat Med. 2011;30(4):377-99. doi: 10.1002/sim.4067
87. Briggs A, Sculpher M, Claxton K. Decision modelling for health economic evaluation: Oup Oxford; 2006.
88. Neale J. Iterative categorization (IC): a systematic technique for analysing qualitative data. Addiction. 2016;111(6):1096-106. doi: 10.1111/add.13314
89. Norman G, Mason T, Dumville J, Bower P, Wilson P, Cullum N. Approaches to enabling rapid evaluation of innovations in health and social care: a scoping review of evidence from high-income countries. BMJ Open. 2022 12(e064345). doi: 10.1136/bmjopen-2022-064345
90. Lood Q, Hermansen Østby R, Hultqvist S, Edvardsson D, Dahlin-Ivanoff S. Uncovering hidden abilities for participation in research through photo-elicitation interviews: a view on participatory research with people living in residential care facilities. Res Involv Engagem. 2023;9(1):1-11. doi: 10.1186/s40900-023-00422-9
91. Lumia CM, Arbour-Nicitopoulos KP, Moola FJ, McPherson AC. Using photo-elicitation to explore health promotion concepts with children and adolescents with disabilities: a rapid scoping review. Disability and Rehabilitation. 2022;44(19):5708-18. doi: 10.1080/09638288.2021.1945690
92. Mills KA. Big data for qualitative research: Taylor & Francis; 2019.
93. Toomey E, Matthews J, Hurley DA. Using mixed methods to assess fidelity of delivery and its influencing factors in a complex self-management intervention for people with osteoarthritis and low back pain. BMJ Open. 2017;7(8):e015452. doi: 10.1136/bmjopen-2016-015452
94. Walton H, Spector A, Tombor I, Michie S. Measures of fidelity of delivery of, and engagement with, complex, face-to-face health behaviour change interventions: A systematic review of measure quality. Br J Health Psychol. 2017;22(4):872-903. doi: 10.1111/bjhp.12260
95. Pagel C, Utley M, Crowe S, Witter T, Anderson D, Samson R, et al. Real time monitoring of risk-adjusted paediatric cardiac surgery outcomes using variable life-adjusted display: implementation in three UK centres. Heart. 2013;99(19):1445-50. doi: 10.1136/heartjnl-2013-303671
96. Kohli M, Ferko N, Martin A, Franco E, Jenkins D, Gallivan S, et al. Estimating the long-term impact of a prophylactic human papillomavirus 16/18 vaccine on the burden of cervical cancer in the UK. Br J Cancer. 2007;96(1):143-50. doi: 10.1038/sj.bjc.6603501
97. National Institute for Health and Care Research. Equality, Diversity and Inclusion Strategy 2022-2027 2022. Retrieved 09/12/2022 from https://www.nihr.ac.uk/documents/equality-diversity-and-inclusion-strategy-2022-2027/31295
98. National Institute for Health and Care Research. Strengthening our commitment to equality, diversity, inclusion and patient and public involvement and engagement (PPIE) 2022. Retrieved 09/12/2022 from https://www.nihr.ac.uk/documents/strengthening-our-commitment-to-equality-diversity-inclusion-and-patient-and-public-involvement-and-engagement-ppie/24697
99. National Institute for Health and Care Research. Improving inclusion of under-served groups in clinical research: Guidance from INCLUDE project 2022. Retrieved 23/12/2022 from https://www.nihr.ac.uk/documents/improving-inclusion-of-under-served-groups-in-clinical-research-guidance-from-include-project/25435

100. National Institute for Health and Care Research. Equality, Diversity and Inclusion Toolkit 2022. Retrieved 09/12/2022 from https://www.rdsresources.org.uk/edi-toolkit
101. For equity. Health inequalities assessment toolkit 2022. Retrieved 22/12/2022 from https://forequity.uk/hiat/
102. NIHR Applied Research Collaboration East Midlands. Toolkit for: Increasing participation of Black Asian and Minority Ethnic (BAME) groups in health and social care research 2018. Retrieved 23/12/2022 from https://arc-em.nihr.ac.uk/clahrcs-store/increasing-participation-black-asian-and-minority-ethnic-bame-groups-health-and-social
103. Brown-Johnson C, Safaeinili N, Zionts D, Holdsworth LM, Shaw JG, Asch SM, et al. The Stanford Lightning Report Method: a comparison of rapid qualitative synthesis results across four implementation evaluations. Learn Health Syst. 2020;4(2):e10210. doi: 10.1002/lrh2.10210
104. Fulop N, Vindrola C, Sidhu M, Sherlaw-Johnson C, Geoghiou T, Tomini S, et al. Rapid evaluation of remote home monitoring models during COVID-19 pandemic in England: Nuffield Trust; 2020. Retrieved 23/11/2022 from https://www.nuffieldtrust.org.uk/files/vw-evaluation-final-slideset-for-dissemination-12th-oct-2020.pdf
105. NIHR Rapid Service Evaluation Team; NIHR Birmingham RAND and Cambridge Evaluation Centre; Imperial College London; Improvement Analytics Unit. COVID Oximetry@home evaluation interpretation of findings: Nuffield trust; 2021. Retrieved 23/11/2022 from https://www.nuffieldtrust.org.uk/files/2021-11/co-h-interpretation-of-evaluation-findings-final-slide-deck-nov-2021.pdf
106. Crellin NE, Herlitz L, Sidhu MS, Ellins J, Georghiou T, Litchfield I, et al. Examining disparities relating to service reach and patient engagement with COVID-19 remote home monitoring services in England: a mixed methods rapid evaluation. medRxiv. 2022. doi: 10.1101/2022.02.21.22270793
107. Morris J, Georghiou T, Appleby J. Changes in English NHS outpatient activity during the early COVID-19 period. medRxiv. 2021. doi: 10.1101/2021.04.28.21256176
108. Greenhalgh T, Knight M, Inada-Kim M, Fulop NJ, Leach J, Vindrola-Padros C. Remote management of COVID-19 using home pulse oximetry and virtual ward support. Bmj-Brit Med J. 2021;372. doi: 10.1136/bmj.n677
109. Sidhu MS, Ford GA, Fulop NJ, Roberts CM. Learning networks in the pandemic: mobilising evidence for improvement. Bmj-Brit Med J. 2022;379:e070215. doi: 10.1136/bmj-2022-070215
110. Rapid Service Evaluation Team. Blogs Nuffield Trust, 2022. Retrieved 30th March 2023 from https://www.nuffieldtrust.org.uk/rset-the-rapid-service-evaluation-team#publications-and-outputs
111. Appleby J. Nuffield Trust. 2023. Available from: https://www.nuffieldtrust.org.uk/news-item/evaluating-a-hospital-based-youth-violence-intervention-programme.
112. National Institute for Health and Care Research. Clinical Practice Research Datalink 2022. Retrieved 19/12/2022 from https://cprd.com/
113. Walton H, Fulop N. Virtual wards and Covid-19: An explainer 2022. Retrieved 31st March 2023 from https://www.nuffieldtrust.org.uk/resource/virtual-wards-and-covid-19-an-explainer
114. Georghiou T, C A, M D, S A, T B, M B, et al. Harnessing social action to support older people. Evaluating the Reducing Winter pressures fund: Nuffield Trust; 2016. Retrieved 19/12/2022 from https://www.nuffieldtrust.org.uk/files/2017-01/harnessing-social-action-web-final.pdf
115. Morris S, Ramsay AI, Boaden RJ, Hunter RM, McKevitt C, Paley L, et al. Impact and sustainability of centralising acute stroke services in English metropolitan areas: retrospective analysis of hospital episode statistics and stroke national audit data. Bmj-Brit Med J. 2019;364:l1. doi: 10.1136/bmj.l1
116. Melnychuk M, Morris S, Black G, Ramsay AI, Eng J, Rudd A, et al. Variation in quality of acute stroke care by day and time of admission: prospective cohort study of weekday and weekend centralised hyperacute stroke unit care and non-centralised services. BMJ Open. 2019;9(11):e025366. doi: 10.1136/bmjopen-2018-025366
117. Sherlaw-Johnson C, Crump H, Arora S, H H, A D, R M. Patient-centred care for older people with complex needs. Evaluation of a new care model in outer East London.: Nuffield Trust; 2018.

Retrieved 22/03/2023 from https://www.nuffieldtrust.org.uk/files/2018-04/1524661229_bhr-2-complex-care-web.pdf
118. Keeble E, Georhiou T. Deaths at home during COVID-19 and implications for patients and services. Forthcoming.
119. Georghiou T, Keeble E. Age UK's Personalised Integrated Care Programme. Evaluation of impact on hospital activity.: Nuffield Trust; 2019. Retrieved 19/12/2022 from https://www.nuffieldtrust.org.uk/files/2019-01/nutj6871-age-uk-care-190130-web.pdf
120. Georghiou T, Steventon A. Effect of the British Red Cross ' Support at Home' service on hospital utilisation: Nuffield Trust; 2014. Retrieved 19/12/2022 from https://www.nuffieldtrust.org.uk/files/2017-01/red-cross-research-report-web-final.pdf
121. Spiegelhalter D, Sherlaw-Johnson C, Bardsley M, Blunt I, Wood C, Grigg O. Statistical methods for healthcare regulation: rating, screening and surveillance. J R Stat Soc Ser A. 2012;175(1):1-47. doi: 10.1111/j.1467-985X.2011.01010.x
122. Sherlaw-Johnson C, Philips Z. An evaluation of liquid-based cytology and human papillomavirus testing within the UK cervical cancer screening programme. Br J Cancer. 2004;91(1):84-91. doi: 10.1038/sj.bjc.6601884
123. Clarke CS, Vindrola-Padros C, Levermore C, Ramsay AI, Black GB, Pritchard-Jones K, et al. How to Cost the Implementation of Major System Change for Economic Evaluations: Case Study Using Reconfigurations of Specialist Cancer Surgery in Part of London, England. Appl Health Econ Health Policy. 2021;19(6):797-810. doi: 10.1007/s40258-021-00660-6
124. Hunter RM, Fulop NJ, Boaden RJ, McKevitt C, Perry C, Ramsay AI, et al. The potential role of cost-utility analysis in the decision to implement major system change in acute stroke services in metropolitan areas in England. Health Res Policy Syst. 2018;16(1):1-14. doi: 10.1186/s12961-018-0301-5
125. Yau CWH, Lenguerrand E, Morris S, Draycott T, Pizzo E. A model-based cost-utility analysis of multi-professional simulation training in obstetric emergencies. Plos one. 2021;16(3):e0249031. doi: 10.1371/journal.pone.0249031
126. Clarke CS, Melnychuk M, Ramsay AI, Vindrola-Padros C, Levermore C, Barod R, et al. Cost-utility analysis of major system change in specialist cancer surgery in London, England, using linked patient-level electronic health records and difference-in-differences analysis. Appl Health Econ Health Policy. 2022;20(6):905-17. doi: 10.1007/s40258-022-00745-w
127. Barbosa EC, Jones L, Pomeroy L, Robert G, Burnett S, Anderson JE, et al. A board level intervention to develop organisation-wide quality improvement strategies: cost-consequences analysis in 15 healthcare organisations. Int J Health Policy Manag. 2022;11(2):173. doi: 10.34172/ijhpm.2020.91
128. McKevitt C, Ramsay AI, Perry C, Turner SJ, Boaden R, Wolfe CD, et al. Patient, carer and public involvement in major system change in acute stroke services: the construction of value. Health Expect. 2018;21(3):685-92. doi: 10.1111/hex.12668
129. Turner S, Ramsay A, Perry C, Boaden R, McKevitt C, Morris S, et al. Lessons for major system change: centralization of stroke services in two metropolitan areas of England. J Health Serv Res Policy. 2016;21(3):156-65. doi: 10.1177/1355819615626189
130. Black GB, Ramsay AI, Baim-Lance A, Eng J, Melnychuk M, Xanthopoulou P, et al. What does it take to provide clinical interventions with temporal consistency? A qualitative study of London hyperacute stroke units. BMJ Open. 2019;9(11):e025367. doi: 10.1136/bmjopen-2018-025367
131. Perry C, Papachristou I, Ramsay AI, Boaden RJ, McKevitt C, Turner SJ, et al. Patient experience of centralized acute stroke care pathways. Health Expect. 2018;21(5):909-18. doi: 10.1111/hex.12685
132. Simister R, Black GB, Melnychuk M, Ramsay AI, Baim-Lance A, Cohen DL, et al. Temporal variations in quality of acute stroke care and outcomes in London hyperacute stroke units: a mixed-methods study. Health Serv Del Res. 2020;8(34). doi: 10.3310/hsdr08340

Appendix

Appendix 1. Summary of team expertise

Research methods	**Example evaluations where applied (bold=rapid; non-bold=**non-rapid**)**
Analysis of large patient-level secondary care datasets	**COVID-19 remote home monitoring - phase 2,**[15] **Outpatient innovations,**[22] Cabinet Office Reducing Winter Pressures Fund,[114] Stroke reconfiguration,[39, 115] METRO 24/7[116]
Analysis of patient-level primary care data	Health 1000,[117] Deaths at home during Covid-19 and implications for patients and services,[118] Care City[33]
Analysis of service-level data	**COVID-19 remote home monitoring - phase 2,**[15] **Special measures,**[19] **Redthread**[26]
Time series analysis	**Special measures,**[19] **Outpatient innovations**[22]
Multi-variate regression modelling	**Outpatient innovations,**[22] **COVID-19 remote home monitoring - phase 2,**[15] Cabinet Office Reducing Winter Pressures Fund,[114] Age UK's Integrated Care Programme[119]
Survival analysis	**Outpatient innovations,**[22] Red Cross Support at Home service[120]
Sequential monitoring techniques	Statistical methods for healthcare regulation: rating, screening and surveillance[121]
Using mathematical models to predict long-term implications of policy changes	An evaluation of liquid-based cytology and human papillomavirus testing within the UK cervical cancer screening programme[122]
Matched case control studies	Cabinet Office Reducing Winter Pressures Fund,[114] Red Cross Support at Home service,[120] Health 1000[117]
Developing options for longer term evaluation	**Redthread,**[18] **Prison peer support social care**[23]
Cost analysis of implementing innovations	RESPECT-21[123]
Cost-utility analyses of service innovations	Stroke reconfiguration,[124] Professional training to avoid obstetric emergencies,[125] RESPECT-21[126]
Cost-consequences analyses of service innovations	Organisation-wide quality improvement strategies,[127] Improvement interventions in NHS Trusts[19]
Interviews with staff	**Prison peer support social care,**[23] **COVID-19 remote home monitoring,**[15-17] **Prehospital triage,**[14] **Redthread,**[18] **Special measures,**[19] **PIFU,**[21] CONCORD,[42] Stroke reconfiguration,[37, 128, 129] RESPECT-21,[38] METRO24/7[130]
Interviews with national stakeholders	**Prison peer support social care,**[23] **COVID-19 remote home monitoring - phase 2,**[15] **Special measures,**[19] CONCORD,[42] Stroke reconfiguration[47]
Interviews with patients and carers	**Prison peer support social care,**[23] **COVID-19 remote home monitoring - phase 2,**[15] Stroke reconfiguration,[131] METRO24/7[132]
Focus groups	CONCORD[42]
Surveys with staff (including Discrete Choice Experiments)	**COVID-19 remote home monitoring - phase 2,**[15] **COVID-19 remote home monitoring - care homes,**[16] **Prehospital triage,**[14] CONCORD,[42] RESPECT-21[38]
Surveys with patients (including Discrete Choice Experiments)	**COVID-19 remote home monitoring - phase 2,**[15] CONCORD,[42] RESPECT-21[38]

Non-participant observations	**Prehospital triage,**[14] **Redthread,**[18] **Special measures,**[19] Stroke reconfiguration,[37] RESPECT-21[38]
Systematic and scoping reviews	**Prison peer support social care,**[23] **COVID-19 remote home monitoring – phase 2,**[74] **Prehospital triage,**[14] **Redthread,**[18] **Special measures,**[19] **PIFU,**[21] CONCORD,[44] Stroke reconfiguration[37, 128, 131]
Documentary analyses	**Prison peer support social care,**[23, 28] **COVID-19 remote home monitoring – phase 2,**[15] **Prehospital triage,**[14] **Special measures,**[19] **PIFU,**[76] Stroke reconfiguration,[37] RESPECT-21[38]
Workshops / rapid prioritisation process	**Prison peer support social care,**[23] **Identification of adult social care innovations,**[20] CONCORD[42]