RAPID SERVICE EVALUATION TEAM (RSET)

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Summary

Background. Challenges to health and care systems such as increases in life expectancy and multi-morbidities, developments in treatments and technologies, and wider economic pressures have resulted in a drive at national and local levels to develop and accelerate service innovations to benefit patients and public.[1-4] Currently, innovations do 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 in a timely fashion.[5-7] To address this need, the NIHR HS&DR programme put out a call to commission a Rapid Evaluation Research Team.

Our aim. RSET is a collaboration between researchers from UCL Department of Applied Health Research (DAHR) and the Nuffield Trust (NT). We will conduct rapid evaluations of health and care service innovations, in close partnership with those who deliver, manage and use these services, and produce timely findings of national relevance and immediate use to decision-makers.

Theory-driven approach. Our overall approach will combine the questions, 'What works at what cost?' with 'How and why?'. We will draw on a range of theories (including adoption, diffusion, and sustainability of innovations, knowledge mobilization, and implementation of change). [8-11]

Innovative evaluation methods. We will use innovative qualitative and quantitative evaluation methods (e.g. rapid ethnographic techniques)[12-14] to facilitate timely analysis of innovations.

Sharing lessons for rapid impact. Our research approach will enable provision of formative, as well as summative, feedback to people implementing innovations from the beginning of our evaluations onward. The applicants have extensive networks in health and care sectors and an impressive track record in co-producing meaningful research findings and using a wide range of approaches to reach and influence decision-makers.

Working in partnership. Fundamental to our programme is that our work should be developed and conducted in close partnership with stakeholders (including clinicians, managers, and patient and public representatives). We will be guided by a Stakeholder Advisory Board who will help identify cutting edge innovations; and in each of our evaluations we will actively involve clinicians, managers and patient and public representatives throughout the research process (including project design, data collection, analysis and interpretation, and sharing of findings).

Conclusion. This call for rapid evaluation teams is undeniably timely and will help health and care services meet a pressing need to become better at learning from innovative ways of working. We believe this call's objectives can be achieved through a programme that prioritises dynamic horizon scanning, responsive topic selection, collaborative research design, rapid data collection and analysis, and active approaches to providing formative and summative feedback. Background

1.1 What is the problem being addressed?

There is a focus in policy at national and local levels to develop and accelerate service innovations to benefit patients and public. This is driven by challenges to the health and care systems, including increases in life expectancy and multi-morbidities, developments in treatments and technologies, and wider economic pressures. In particular, the 'Five Year Forward View'[4] emphasises 'accelerating innovation in new ways of delivering care' (p34), whilst 'Innovation, Health and Wealth'[1] discussed how innovation can not only transform patient outcomes and NHS efficiency, but also bolster the UK economy. Other national policy initiatives such as the Carter and Naylor reviews emphasise new approaches to the delivery of care and the introduction of innovative processes, e.g. in procurement, to support NHS efficiency and benefit patients and the public.[2, 3] While it is acknowledged that there is no shortage of medical innovation or new ideas in the health and care sectors, innovations do not spread as fast nor have the same degree of impact as in other sectors – particularly in rapidly shaping frontline service delivery.[1, 15] It is argued that solutions to the challenges facing health and care are likely to come from changes in process and service delivery rather than technological `fixes' alone.[5] There is also a need to understand when certain services should be de-commissioned and replaced with alternative, innovative solutions and service pathways.[16] Further, the lack of evidence for assessing 'high impact' innovations that can be translated from one setting to another, is highlighted as a critical problem which needs to be addressed. All this has led to calls for, and the development of, new approaches to research and evaluation which can provide robust evidence that meets these needs in a timely fashion.[5-7]

1.2 Why is the research important in terms of improving the health of the public and/or to patients and the NHS?

Our team will evaluate service innovations – those driven both by national policy and imperatives, and local needs - which affect different *levels* of the system i.e. innovative organisational forms (e.g. group hospital model, Accountable Care Organisations); within organisational innovations at management level (e.g. governance); and new service delivery models which may include pathway change across a whole system, and quality improvement initiatives.

Service innovations may be 'combinatorial' and encompass several aspects of innovation – technological, financial and service model re-design. To be successfully introduced and adopted by the health system, they need to demonstrate added value, cost-effectiveness, benefit to patients over current practice, and feasibility. At

the same time, innovations generally require flexible and varied financial structures, and support mechanisms, to ensure they are scaled up and spread beyond local settings, whilst new service delivery models may demand innovative governance and payment arrangements. For these reasons, a flexible approach to applying new evaluation methods is important, in order to accommodate changing innovation processes and pathways. Developing these methods is necessary to address important research questions within this programme, but will also be beneficial for future research.

Our approach to these evaluations will be an ethos of 'co-production' - working in close partnership with service users, professionals and managers from the identification of innovations to evaluate, through design and delivery of the study, to dissemination (including formative and summative dissemination) of findings. The research agendas of DAHR and NT are driven by regular discussions with senior clinicians, managers and patients regarding current policy and innovations. Projects are initiated by, and developed with, our NHS colleagues.

In order to maximise impact on the health of patients and the public, and the NHS, the team will capture, in real time, knowledge and lessons arising from the implementation of innovations to produce valuable learning for the NHS and stakeholders - as part of an-going feedback process. This will include developing a clearer understanding of the value of specific innovations to different user groups, and the implementation mechanisms that support (or hinder) adoption across settings (e.g. clinical leadership, effective coordination, and exploitation and mobilization of new knowledge and ideas).[8] In addition, by comparing different types of service innovation, we will build up an empirical knowledge base about how the health and care system is approaching innovation over time and the 'dynamic capabilities' that appear critical for achieving better service outcomes (i.e. cost benefits, improved patient experience, better clinical care, preventative health support etc.).[17]

Having built relationships with evidence users over time, we have a genuine understanding of the potential controversies that can result from evaluating new initiatives. Whilst significant experience in the field can help to identify the best approach to mitigate these tensions, the team are also aware of the importance of appreciating each evaluation in its own context, the need for critical distance, and maintaining independence of the research.

The team are also acutely aware of, and have studied, the time and resources required for the NHS to develop, implement and embed innovations which must be considered when planning evaluations.[18, 19]

1.3 Why this research is needed now

The HS&DR programme commissioned a Rapid Service Evaluation Team (RSET) to produce, in partnership with colleagues working in the health and care systems, proportionate, real time evaluations of innovations and their development which will generate evidence of national relevance. This evidence should be of immediate use to decision-makers in order to improve the quality, effectiveness and accessibility of health and care services for patients and the public.

1.4 Aims and objectives

Aim: To carry out rapid evaluations of health and care service innovations, in close partnership with those who deliver, manage and use these services, which produce timely findings of national relevance and immediate use to decision-makers.

Objectives:

- To develop flexible mechanisms for identifying service innovations to evaluate in close partnership with professionals, managers and service users;
- To co-produce meaningful research questions using a partnership approach;
- To collect/access relevant and timely data to evaluate service innovations;
- To use existing and develop novel analytical methods to evaluate service innovations and produce timely findings of national relevance and immediate use to decision-makers;
- To produce and communicate evidence using rapid, innovative approaches so that learning can be taken up quickly in other parts of the health and care system;
- To develop and share learning in methods of rapid evaluation.

2 Research Plan / Methods

2.1 Overall approach

Reviews of the literature on the diffusion of innovations and implementation of change in health care note the need for more research on the processes by which such innovations are initiated, implemented and sustained (or not), and in what particular contexts.[9, 10, 20-22] In RSET, our overall methodological approach to the evaluation of service innovations therefore addresses a combination of questions: 'What works at what cost?' with 'How and why?' By addressing these we will be able understand what impact the service innovation has, which elements of the innovation are most likely to have contributed to different effects and in which contexts, and how the changes were implemented. Our overall approach has four key attributes:

2.1.1 Theory-driven approach

We will draw on relevant literatures including theories of adoption, diffusion, knowledge mobilization and sustainability of innovations;[10, 23] as well as theories relating to implementation of change.[11, 20, 24] For example,

in the field of implementation science, Damschroder et al's five key domains (intervention characteristics, outer setting, inner setting, characteristics of the individuals involved and process of implementation) can be used to guide choices about relevant aspects of the intervention, context and process of implementation to assess in any given evaluation.[9]

2.1.2 Using innovative evaluation methods

We aim to use rapid evaluation methods, e.g. combining use of qualitative and quantitative methods, to better identify the role of different contextual processes.[6]

2.1.3 Co-production and working in partnership

Our approach also has at its core co-production and formative evaluation. As set out below, we will work closely with a wide range of stakeholders including patients and public to horizon scan, identify and select potential innovations to evaluate. We will work in partnership with local innovation developers and implementers to co-create the evaluation, and commit to sharing findings on a formative as well as summative basis.

2.1.4 Undertaking research rapidly

We recognise that research outputs are needed in a timely fashion to influence change, and will therefore make use of innovative, cutting edge approaches to data collection, analysis, and sharing lessons from our research..

2.2 Research design

The exact methods to be used by RSET will depend on the service innovation being evaluated; we therefore present here the principles of our approach to research design. We will use a mixed-methods approach, which may comprise qualitative, quantitative, and health economic approaches (discussed below). We recognise that not all projects will require the same types or level of research input, e.g., projects will be of varying length. For example, some may be full mixed-methods evaluations undertaken over a 1-2 year period; others may be short 2-3 month scoping studies, with recommendations for further development. The research design will be tailored to meet the aims and objectives of individual projects.

We will work closely in partnership throughout the research process with evidence users to co-produce the research. For each project, we will ensure that stakeholders including commissioners, health and social care professionals, policy-makers, patients and public, will decide the following in conjunction with researchers:

- Which questions will be addressed in the research
- The aims and objectives of the research
- How the research will be done
- How the findings will be disseminated

This will build on the programme infrastructure as a whole, ensuring the work of the research team is useful and informative, and has maximum impact.

Specific research questions will be identified for each individual project and co-produced with evidence users. Generic examples of the research questions to be addressed are listed in Box 1.

Box 1. Generic research questions

RQ1. What are/were the key drivers for change?
RQ2. What is/was the implicit or explicit theory of change employed by the designers and implementers of the innovation?
RQ3. What was the impact of the service innovation on intermediate processes, patient experience and patient activity/outcomes?
RQ4. What was the cost of the service innovation, and was it cost-effective?
RQ5. What are patient and public perceptions of the service innovation?
RQ6. What are patient, public and professional preferences towards the service innovation?
RQ7. What are the organisational, professional, and contextual factors influencing the development and implementation of the service innovation (including the role of PPI)?
RQ8. How might lessons from the service innovation be applied in future to other settings?
RQ9. How might the impact of similar innovations change if applied to other settings?

To address these questions, RSET will use a range of quantitative and qualitative methods, described in detail in Section 2.3.2. Quantitative methods to evaluate impact (RQ3) will include statistical analysis of local and national datasets on clinical processes, patient experience and outcomes. Evaluation of budget impact and value for money (RQ4) will involve economic modelling utilising results from the quantitative analyses supplemented with data from published sources. Analysis of key processes underpinning the service innovation (RQ1), theory of change (RQ2), patient and public perceptions (RQ5), organisational, professional and contextual factors influencing implementation (RQ7), and lessons for wider application (RQ8) will be based on qualitative research methods, including: documentary analysis, stakeholder interviews and focus groups, and non-participant observations. Analyses of preferences (RQ6) will be undertaken using qualitative research methods, surveys and discrete choice experiments. Impacts in other settings (RQ9) will be assessed, where possible, by developing models of the relationship between local environments and outcomes from the original setting and applying these to new localities.

2.3 Typical working procedures

These are split into four stages: topic selection; research methods; quality control; and, dissemination (see Figure 1).

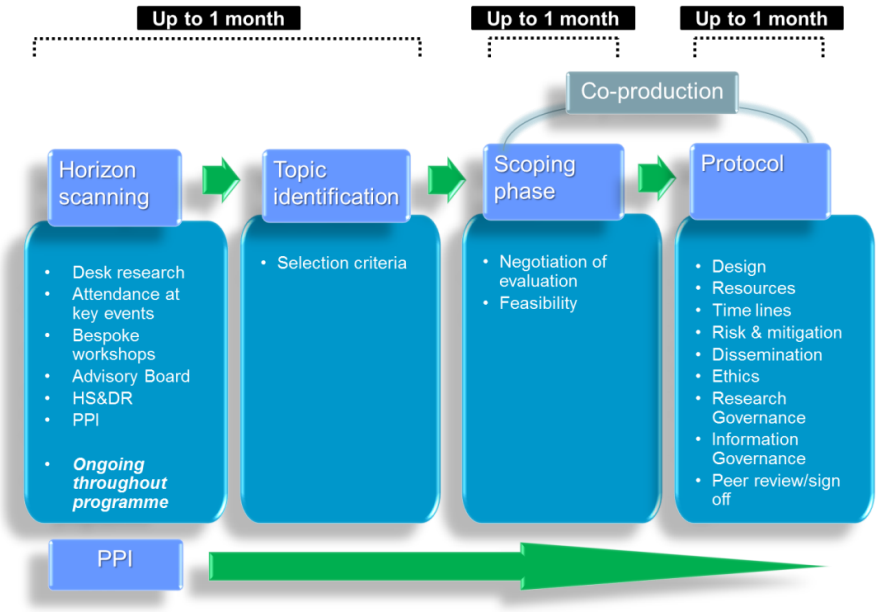
Figure 1. Input from collaborators on stages of typical research process

	Topic selection	Research methods	Quality control	Dissemination
Stakeholder Advisory Board	Horizon scanning; Identify innovator sites	Identify topic experts	Identify peer reviewers	Guide on relevant networks for sharing lessons
Participating services	Propose research; Research questions	Research tools; access to services; interpret results		Guide and facilitate formative and summative feedback
Patient and public involvement	Identify patient/public priority; Research questions	Recruitment documents; Research tools; Interpret results	Review protocol and reports	Accessible, clear summaries of lessons

2.3.1 Topic selection

The selection of research projects to be undertaken by the team will be determined using a partnership approach, involving close working with the funder, but also with other stakeholders via our Advisory Board and PPI input and other networks. Our topic selection process will comprise four phases (see Figure 2).

Figure 2. Key stages of evaluation development, with indicative timings



Horizon scanning: we will produce a long-list of potential research projects based on recommendations from the funder, the Advisory Board, and the PPI panel. This will be supplemented with a range of activities by the research team to identify topics of current interest that it would be timely to investigate, including desk-based research of published outputs, analysis of social media, interaction with stakeholders at dissemination events, contacting our networks, and by people alerting us to innovations through our interactive website (Section 8).

Topic identification: we will produce a shortlist of potential research projects using pre-determined criteria to be agreed with the funder, the Advisory Board, and PPI panel. These criteria are likely to include considerations of timeliness, strategic importance, and feasibility. Topics identified by the funder will be prioritised.

Scoping phase: drawing on methods developed by the UCLH Embedded Research Team (ERT), RSET will conduct brief targeted scoping reviews of shortlisted topics, and use these to describe the proposed topics in terms of the research questions to be addressed, research methods to be used, data requirements, resources

required, feasibility, timescale, likely deliverables of the proposed topic, and a list of potential experts on the topic who might be included as collaborators or reviewers. This phase will entail a rapid scope of the literature and discussions/negotiations with the relevant range of stakeholders. A scoping report will be produced that will be discussed with the funder and learning shared with relevant stakeholders.

Protocol development: once the funder and research team has reached agreement about the scope of a particular project, a senior member of the research team will be assigned to lead the project and researchers will be assigned to each project based on the resources required and methods to be used. The project team under the guidance of the project lead will produce a research protocol describing the methods of data collection and analysis in detail. We have developed a set of standard protocol templates (reflecting different study designs) used by the UCLH ERT which facilitate rapid protocol development. Protocols will be shared with the Stakeholder Advisory Board (SAB) and PPI representatives. We will ask topic experts identified at the scoping phase to peer-review the draft protocol. The protocol will be amended in the light of the feedback received and finalised, before being sent for final approval by the funder.

2.3.2 Research methods

Methods will vary according to each individual topic and also the evidence needs of the funder and evidence users, though as stated we anticipate that each project will combine a mixture of qualitative, quantitative and economic research methods, including an assessment of patient and public perceptions. The research methods will be tailored to individual projects but a wide-range of evaluation methods are likely to be needed throughout the lifetime of the research team.

Data collection

We will collect qualitative data on implementation of change and organisation and provision of care. The team has particular expertise in methods such as: semi-structured interviews with patients and the public, service providers (e.g. clinicians and managers), commissioners, and political representatives (at local and national levels); and, non-participant observations of planning, implementation, and oversight of change (e.g. meetings and stakeholder events and shadowing service delivery). Our collaborative, theory-driven approach helps ensure collection of relevant data, e.g. by co-designing interview topic guides and observation frameworks with clinicians, patient representatives, and managers. We also adhere strictly to NHS and University standards of research ethics and information governance.

Quantitative data will be collected from pre-existing datasets including *Hospital Episode Statistics* (HES), national audit data, primary care data, local routine collections and household survey data.

Where required we will collect quantitative data via surveys, for example, in order to run discrete choice experiments to elicit preferences.

Data for economic modelling will be obtained from the pre-existing datasets used in the quantitative analyses. Usually additional data on probabilities (e.g., for disease progression), utilities and unit costs are required to populate economic models. Probabilities will be obtained from systematically reviewing epidemiological and other literature. Unit costs will be obtained from sources such as NHS Reference Costs,[25] previous economic studies,[26] the British National Formulary,[27] and the Unit Costs of Health and Social Care.[28] Utilities will usually be obtained from previous publications, e.g., via the cost-effectiveness analysis (CEA) Registry at Tufts University.[29]

These different forms of data collection will not take place in isolation. From our experience of evaluating a wide range of innovations,[30-32] we understand the importance of close working between the teams collecting and analysing quantitative and qualitative data so that each informs the other.

Data analysis

The RSET team will take a multifaceted approach to understanding innovation e.g. in relation to the drivers for change, approaches to planning and implementation, and perceived impact on organisation, provision, and outcomes of care - and are particularly interested in understanding the complex and non-linear relationships between these, as mediated through the contexts in which the innovation takes place (e.g. through cross-case comparison). We combine inductive (theory-building) and deductive (theory-driven/testing) approaches. We also work closely with key patient, clinical, and managerial stakeholders in order to ensure the development of lessons that have a meaningful impact at multiple levels.

We describe below approaches to addressing some of the major challenges that arise in conducting rapid yet robust evaluations of service innovations, including the issue that experimental designs are usually not feasible; short timescales required; delays in impact of innovation on outcomes; and variations in impacts (rather than just considering overall impact).

When undertaking quantitative analyses to evaluate service innovations, experimental data, e.g. from randomised controlled trials, are rarely available and analyses of observational data are required. This usually requires analysis of routine datasets where key issues affecting the analyses are constructing the counterfactual, selection bias, causal inference, and external validity. A wide range of research methods are commonly used to explore these issues including (but not limited to): difference-in-differences and synthetic controls (to construct counterfactuals); risk adjustment and matching (to address concerns about selection bias

and generalisability); and instrumental variables regression (to estimate causal effects). We will utilise these and other methods as appropriate to address the research questions identified for each project.

To enable more rapid evaluation during the progress of an innovation, it may also be appropriate to apply continuous sequential monitoring techniques. These have advantages in being able to provide ongoing feedback on outcomes as well as potentially stimulating changes in process. In complex ever-changing environments these might be particularly valuable approaches to adopt.

There is a particular challenge around evaluating the value of innovations more widely, beyond the settings in which they are being applied. This requires an understanding of both the qualitative and quantitative factors influencing outcomes (both intended and unintended, in the short-, medium- and long-terms). Quantitatively, it may be possible to estimate outcomes in new settings based on models of the relationships between the population and environment and outcome which are calibrated from the site of the innovation.

A further challenge is that it may be a long time before the influence of service innovations on important outcomes become noticeable (e.g. use of secondary care services). Moreover, over the longer term, other changes in local services that are not part of the innovation may start to have an influence. This has implications for how a rapid evaluation will be conducted and the methods to be used. In such circumstances it may be possible to project long-term outcomes based on shorter-term observations using a combination of modelling techniques and evidence from the literature, whilst accounting for different contexts and scenarios.

Other types of quantitative data analysis that might be required are of inequality and inequity using concentration indices and inequality decomposition methods [33] and analyses of discrete choice experiment data to investigate preference for service innovations [34] (e.g. using conditional logit or mixed logit regression).[35] The precise methods to be used will be identified at the start of each project and clearly delineated in the project protocol.

The research team will construct economic models to evaluate the cost and cost-effectiveness of the service innovation. The nature of the economic analysis will be specified in the project protocol but will in the base case conform to NICE guidance for health economic modelling of service innovations[36]; for example, taking an NHS and personal social services cost and measuring health benefits in terms of quality-adjusted life years. We will also consider other perspectives and outcome measures if recommended by stakeholders as being important for decision-making. We will search the existing literature including the NHS Economic Evaluation Database[26] to identify previous economic models that might be adapted. Where none is available a de novo model will be constructed. The economic model will be populated based on available evidence, including from the quantitative analyses and collected from the literature as described above. We will undertake deterministic and probabilistic sensitivity analysis, the latter assuming appropriate distributions and parameter values.[37] We will construct cost-effectiveness acceptability curves and confidence ellipses where appropriate. We will use the numerator of the incremental cost-effectiveness ratio to calculate the budget impact of the service innovation, following good practice guidelines,[38] and multiplying the incremental cost (positive or negative) by the estimated eligible population size. We will also undertake value-of-information studies to measure the maximum amount of money the health and care systems should be willing to pay for additional research to reduce decision uncertainty.[37]

2.3.3 Quality control

Quality control will be achieved by the following means:

- The project lead will have oversight of each project and meet with the project team on a monthly basis to review progress.
- Progress for every project will be assessed at a monthly team meeting of the whole research team chaired by the Directors.
- The protocol will be 'light touch' peer-reviewed by an external expert before the start of each project. The final report produced by the project team will be reviewed by the external expert at the end of each project; this review will also involve comparing the final report to the project protocol.
- All project protocols will be co-produced with the Advisory Board and the PPI panel; and, final project reports will be reviewed by them before they are submitted to the funder.

2.4 Dissemination

Over the course of evaluations we will provide ongoing formative feedback and summative reports of findings (Section 8).

3 Co-production

3.1 Partnership approach

We will use a partnership approach throughout the RSET research process, working closely with evidence users to co-produce the research; this ensures our research will be driven by needs of the research user. We have used this approach to good effect previously: the research team are regularly approached by NHS organisations seeking evaluative expertise, e.g., four major studies currently ongoing that involve the research team originated via this route, where local clinical and managerial leads have engaged with us, joined the investigator team, co-designed the study and collaborated in data collection, interpretation, and sharing of findings.[30, 31, 39, 40]

We have created a research infrastructure and working procedures to ensure that stakeholders including commissioners, health and social care professionals, policy-makers, patients and public, will decide the following in conjunction with researchers:

- Which questions will be asked in the research
- What the aims and objectives of the research are
- How the research will be done
- How the findings will be disseminated

This will ensure the work of the research team is useful and informative and has maximum impact.

3.2 Critical distance

Co-production of evaluations i.e. close partnership working between researchers and designers, implementers and recipients of the innovation throughout the research process has some inherent challenges. Perhaps the most important of these is the requirement to maintain 'critical distance' from the innovation under study so that the research remains independent and the findings unbiased. The team has long experience of working in close partnership to evaluate service innovations with the range of stakeholders involved in those innovations, and have a deep understanding of the conflict of interest issues. We will use our approach to date, which has worked successfully in other HS&DR funded studies of service innovations (HSDR 11/1009/09 and 14/46/19), i.e. to discuss conflict of interests openly, on an on-going basis, and form a joint commitment to understand the impact of the changes, whether positive or negative.

4 Programme management/Research Management arrangements

Given the need to combine rigour with flexibility, co-production, multi-disciplinary working, integrating different data and methods, we will employ governance and management arrangements with clearly designated roles at both programme and project level. We describe below how our Programme Board, including and project-specific management arrangements, and Stakeholder Advisory Board will work together to achieve effective, efficient and flexible evaluation of service innovations (see Figure 3).

4.1 Management of the overall programme

The programme will be led by three co-directors. We will establish a Programme Board to oversee the work.

4.2 Programme Board

The Programme Board will be composed of the co-directors, co-investigators, core researchers, programme manager, PPI lead, and Communications lead. The Programme Board will meet in person on a monthly basis, to discuss progress of individual projects and to consider progress of the programme as a whole. Meetings will be chaired alternately by the co-directors, and the location of meetings will alternate between UCL and NT. Key standing items on the agenda will include: progress of current projects; discussion of future projects (selecting those to be discussed with our Stakeholder Advisory Board); resource implications (balancing staff time across current/future projects and more generic tasks, such as research approvals); PPI; and dissemination and impact of findings. Additional meetings will be held by teleconference to ensure the programme can respond rapidly to new research opportunities. To ensure proactive and responsive programme management, we will appoint a programme manager with expertise in managing complex programmes of research. The programme manager will support overall delivery of the programme, coordination of projects, and budget management.

4.3 Project management

Each project will have a named lead (either a Co-Director or one of the co-investigators) responsible for project oversight and day-to-day management. Clinical, managerial and where appropriate academic topic experts will be bought in on a project-by-project basis as necessary. For each evaluation, we will identify a local clinical/provider lead to share expertise and local intelligence/networks, and to ensure local needs are met. Project meetings will take place at least monthly as appropriate (e.g. with greater frequency during set-up and analysis phases) and will be guided by a project plan (including staff responsibilities) agreed by the Programme Board.

4.4 Stakeholder Advisory Board (SAB)

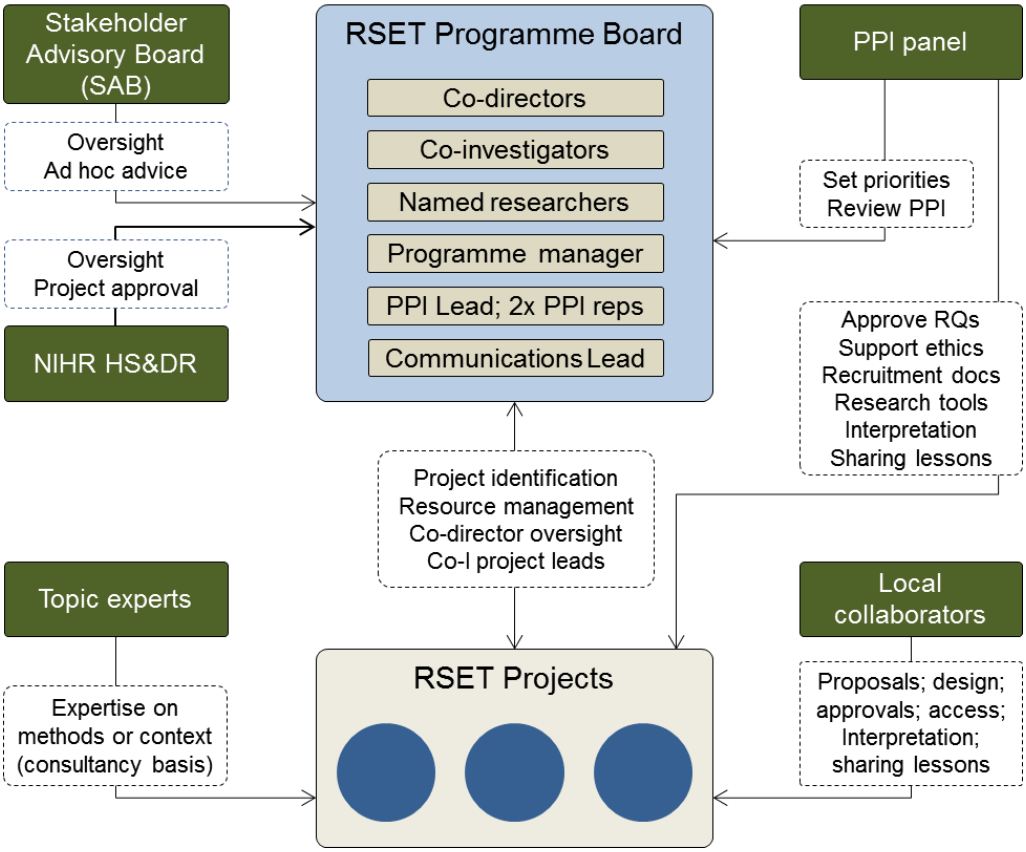
The Stakeholder Advisory Board will draw together expert leaders from across relevant sectors, including NIHR, and will have an independent Chair. The SAB will perform two main functions: 1) programme oversight; and 2) ongoing advice and support for the programme.

- ***Oversight:*** the SAB will meet face-to-face annually to review programme and project progress and the programme's priority topics, proposing amendments if appropriate. Recommendations will be recorded and shared with NIHR.
- ***Ongoing, rapid advice:*** the SAB members have agreed to act as a virtual stakeholder group. They will advise on: horizon scanning; current innovations and who to contact in relation to these; additional sites that are implementing innovations that we are evaluating; and on effective dissemination of findings. We will offer SAB members a range of accessible ways to participate, including online polls and brief teleconferences.

4.5 Working with the NIHR HS&DR programme

We will engage actively with the funder throughout the programme, in terms of agreeing the focus of evaluations, providing regular progress reports, and having an annual face-to-face meeting.

Figure 3. Summary of governance arrangements for RSET programme



5 Patient and public involvement (PPI)

Effective and meaningful involvement of service-users, carers, patients and members of the public will make for a stronger rapid evaluation team, more focused research and more accessible and user-friendly outputs. We worked with patient and public partners on our bid, and plan to involve people throughout, to ensure our work benefits from:

- Experience of health/social care services as service user, patient, carer, or relative (including parents)
- Knowledge and understanding of patient, public and service user perspectives
- A unique voice to evaluations of innovation and service development – in particular when evaluating involvement and engagement activity related to innovation
- Knowledge and understating of successful involvement/engagement

5.1 Engaging with PPI expertise

Co-investigator Towndrow is a Patient and Public Involvement & Engagement (PPI/E) specialist with over fifteen years of involvement and engagement experience in the health, charity and research sectors. We will recruit two PPI advisors to be part of the SAB, to bring a strong patient/public perspective to all aspects of our work. We will work with the CLAHRC's PPI infrastructure – its Research Advisory and Document Review Panels (referred to here as PPI Panels) as part of standing PPI for the Team. We will work with PPI representatives on an ad hoc, project-specific basis throughout our work.

5.2 PPI in development of the protocol

We have produced a comprehensive involvement budget and role descriptions for PPI advisors. We worked with five of the CLAHRC PPI panels (see Section 5.3.1) to develop our bid. Their feedback was positive, recognising a need for this work and the clear patient benefit of sharing lessons more quickly and widely. They also highlighted how the team was well-placed to capture insights that might otherwise be lost over time: "the team clearly captures many different types of expertise to develop a project with very high standards". In addition to general feedback on accessibility and clarity they offered focused comments that we have addressed in the bid:

- The need to describe more clearly the patient focus and benefit of the proposed work (see Section 1.1)
- More detail on how we will work with local/project-level PPI representatives (versus "standing" PPI) (see Section 5.3.2)

- Addressing how we will support people with disabilities and/or communication problems to contribute to our work (see Section 5.3)
- Including effectiveness of PPI/E as a distinct evaluation criterion (see Sections 5.3.2 and 7)

5.3 Key contributions of PPI to RSET

We will involve patients and the public in: horizon scanning and topic identification; co-design and dissemination of research outputs; and, as active participants in both the programme overall and specific projects. We will fully support PPI contributors and reward them for their time and contribution in line with NIHR guidance/good practice. We will work with our PPI experts to ensure all events are welcoming to people with disabilities or with communication problems, for example by hosting them in accessible settings and by offering alternative communications options, such as cue cards.

5.3.1 Programme level

Through membership of the SAB and Programme Board, individual PPI representatives will have a significant voice throughout, as partners in management, design, execution, and dissemination. They will attend SAB and Programme Board meetings; review innovators' involvement and engagement strategies, draft communications materials and outputs, present and disseminate results through meetings and events with stakeholders, and co-present our work at academic conferences. We will work with the CLAHRC's successful involvement and engagement infrastructure via its PPI panels.[41, 42] These groups will act as the PPI Panel for the Team contributing to horizon scanning and topic identification as well as providing general advice and guidance on the overall programme of work.

5.3.2 Evaluation/project level

We have budgeted for recruitment of evaluation-specific PPI representatives, to share their experience and knowledge of the pathways being studied through specially convened meetings and focus groups, and individually by participating in project management; agreeing research questions; drafting, reviewing and commenting on communication outputs; and co-presenting findings at feedback events. We will also work with evaluation-specific PPI representatives to investigate how local involvement and engagement informed development and implementation of service innovations.

6 Ethics and research governance approvals

6.1 Ethical issues raised by this research

As discussed in Section 2.3.2, we anticipate using a range of qualitative and quantitative methods to evaluate innovations in varied care settings. Qualitative approaches raise several ethical issues, given the potential sensitivity of topics addressed and because we expect we will be undertaking research using input from health and care staff, patients, service users, and the public (raising important issues e.g., informed consent and capacity to participate). In terms of the quantitative methods, we anticipate using large anonymised/pseudo-anonymised datasets - including HES data and national audits. We may also run stakeholder surveys, some including discrete choice experiments.

6.2 Research governance: ethical approval and permissions to conduct research

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: 1) for studies where data are to be collected from service users, we will apply for NHS or Social Care Research Ethics Committee (REC) approval; 2) for any study where NHS or Social Care REC approval is not necessary University REC approval will be obtained.

Where appropriate, local management permissions to conduct research in NHS settings will be obtained via the Health Research Authority (HRA) Site-Specific Assessment process (http://www.hra.nhs.uk/resources/applying-for-reviews/site-specific-assessment-ssa/). As the HRA has advised that local management approvals are not required for studies only involving staff e.g. staff surveys, interviewing staff away from patient areas, observing management meetings, we will therefore, where appropriate, request permissions for different components of studies separately, so that aspects of research requiring fewer checks can commence in advance of as quickly as possible.

Quantitative data requests will be submitted to the appropriate data owner (e.g. NHS Digital, Healthcare Quality Improvement Partnership (HQIP)) for consideration by their request panels.

Importantly, we will work closely with participating clinicians and PPI representatives throughout these processes. We will incorporate preparations for ethical and management approvals into the co-production process, to maximise participating organisations' ownership and support of the work, and thus aim to minimise delays to commencing research activity.

7 Research timetable

We understand the successful team will be expected to produce around two evaluations per year for five years. The RSET co-directors and co-investigators all have substantial experience and expertise in working across multiple projects to tight deadlines. Here, we outline broad timelines for the main processes in negotiating and

developing new evaluations in the RSET programme, and discuss briefly how resources will be managed across multiple projects running simultaneously. We recognise that the evaluations must be tailored to the innovation and context, and will work closely with local collaborators and NIHR in agreeing the scope and scale of these projects.

7.1 Evaluation development

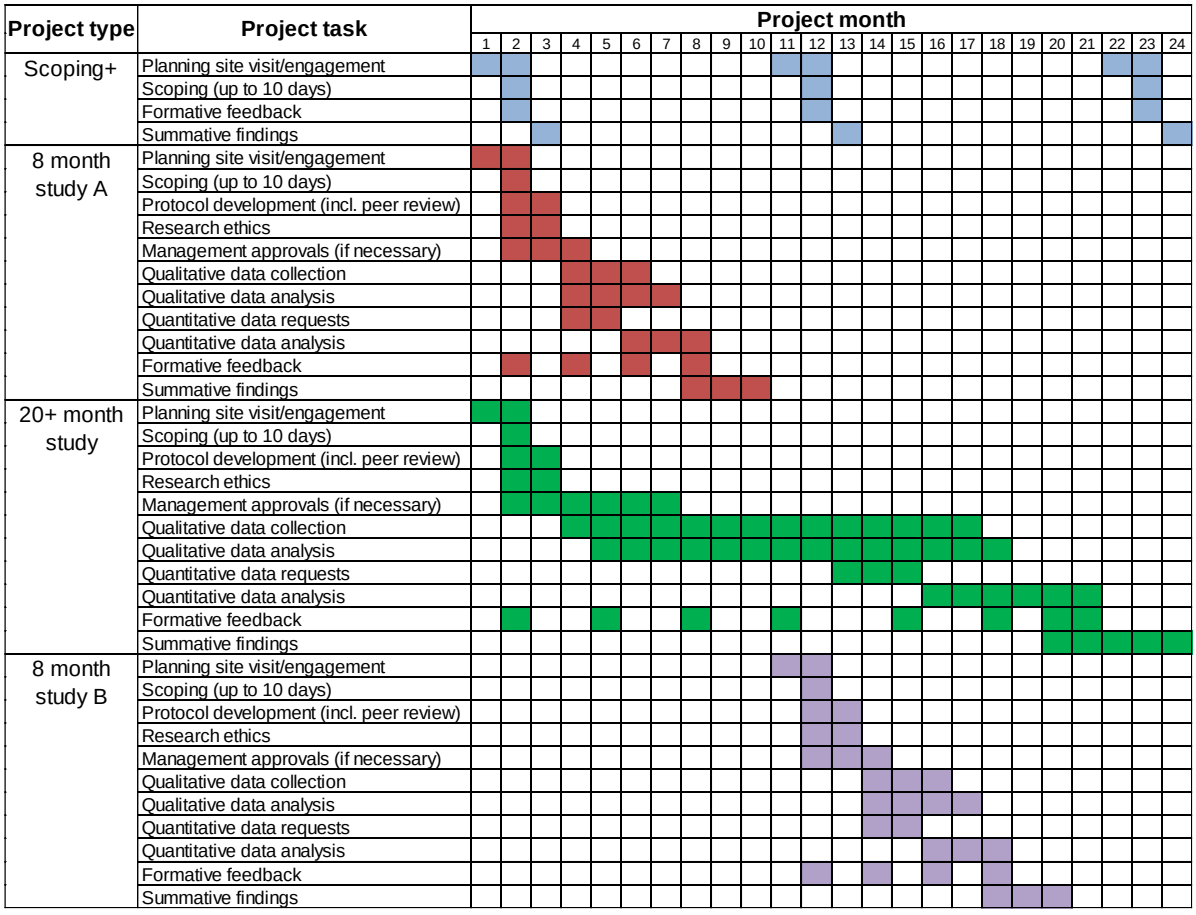
Figure 2 (Section 2.3.1) presents indicative timings for the key stages of evaluation development, from horizon scanning, topic identification, scoping, and protocol development. Timings may be influenced by how the innovation is introduced, and the degree of local 'pull' for us to conduct and evaluation (e.g. if we are approached by the innovator organisation, we might expect access to be negotiated more quickly). However, we anticipate broad timings for negotiating development of an evaluation to be as follows:

- Horizon scanning and topic identification: up to 1 month
- Scoping (including negotiation, rapid data collection, and formative feedback): up to 1 month
- Protocol development (co-developed with local partners): up to 1 month

7.2 Stages of the research

Below, we describe how we will manage this complex programme of multiple evaluations so that lessons are developed and shared rapidly and effectively. A more detailed summary of potential timing of projects of different lengths are summarised in Figure 4.

Figure 4. Flow of key tasks and timings for different scales of study



Scoping +. As discussed in Section 2.3.1, we will conduct a rapid first stage of analysis, including targeted scoping reviews of the shortlisted topic, and site visits lasting 1-10 days per site, with data analysed in real time and shared formatively over the course of the visit. This initial feedback will cover the innovation and its implementation (e.g. objectives and approaches; data/measurement; stakeholder involvement; PPI; and sharing of relevant NT learning sets), the context in which it is being implemented (including relevant lessons from other sites), and proposals for how the innovation might be evaluated.

Project set-up. Once project has been agreed, a number of processes - writing the protocol; developing research tools; obtaining research ethics and management approvals, and submitting data requests - will be addressed simultaneously, and all will be used as focal point for further developing links with local services. As discussed in Sections 2.3.2 and 7.2, we have established strong links with such bodies as HRA and NHS Digital to ensure we obtain relevant permissions quickly.

Data collection will commence as soon as relevant permissions are in place, while ***data analysis*** will begin shortly after this. The time required for these stages depends on the scale of the study and the types of data to

be collected, e.g. the number/type/sector/location of settings to be studied, or the characteristics of outcome measures (timing - e.g. a patient outcome might only be meaningful a year after receiving a given intervention; numbers required to achieve statistical power; time taken by data owner to process data; time taken for innovation to 'bed in'; as outlined in Section 6.2, we have been advised by HRA that some data e.g. staff interviews do not require local management permissions, so will be able to commence more quickly than e.g. patient interviews.

Feedback (formative and summative). Following our formative evaluation approach, we will present headline interim findings over the course of data collection (from scoping onward), to support an evidence-based approach to implementation (see sections 8 and 9).

Peer review of protocols and project outputs will be conducted on all projects (Section 2.3.3).

Managing resources - predominantly staff time - will be a key challenge on this project, given the multiple projects involved and the need to be responsive to new opportunities. At fortnightly programme meetings, the co-directors and programme manager will work with co-investigators to ensure a suitable balance of researcher time across active projects. Central to this will be a clear, granular appreciation of activity levels, e.g. so that lulls in activity (e.g. on longer studies quantitative researchers may face periods awaiting delivery of national data, and qualitative research may involve gaps between phases covering implementation and impact/sustainability) can be matched with tasks on other projects, e.g. supporting protocol writing. Each protocol will present anticipated time dedicated by researchers, developed with reference to existing commitments.

8 Dissemination

The team is highly aware of the need to balance provision of rapid formative feedback to areas conducting innovations with the need to produce summative findings (to be shared locally and nationally, including academic publications). Throughout the programme we will make use of innovative, cutting edge approaches to sharing findings, including active, formative feedback of lessons locally during scoping phase and the full evaluation, and active dissemination of findings more widely so that they can be taken up taken up quickly in other parts of the health and care system. We will use NT's extensive communications facilities and networks as the focus for dissemination, working together with the UCL communications team and colleagues at NIHR's Dissemination Centre as well as the HS&DR programme to maximise the impact of evaluation findings. We will develop a communications strategy for the overall programme and each project in collaboration with the funder, PPI and end users. We will create a dissemination list of stakeholders (in part from advice from the Advisory Group for the project) and develop a social media strategy. We will hold bespoke events, present at conferences, and publish in open-access journals. As part of our communications strategy for the whole programme, we will also set up a micro site on the NT web site (which will be linked to the UCL website) devoted to the whole project. This will also serve as a focus for reaching out to the health and care systems to advertise the team as part of its work to attract potential evaluations, e.g. to enable innovators to suggest potential service innovations to evaluate.

Dependent on the particular evaluation undertaken, and over and above a report to the customer and submissions of papers to peer-reviewed journals, our general communications/dissemination strategy would:[43]

- Identify the audience: who needs to know?
- Set a timetable for dissemination outputs: Weeks, not months
- Decide on appropriate media and form of communications
- Ensure written outputs are as simple as possible
- Provide context and other evidence relevant to each evaluation

In addition, and again where appropriate given the nature of the evaluation undertaken, we will plan outputs and events to stimulate formative learning for clients and others over the course of evaluations. We will reach our target audiences through a variety of tailored methods – from shareable graphics and tweetchats on social media,[44, 45] to compelling blogs, vlogs and blogshots, opinion articles, short films and visualisations to traditional media coverage and targeted two-way conversation events through, for example, NT's extensive learning sets (involving GPs, STP leads, acute trust CEOs etc.). It has an in-house publishing function, meaning research is published to professional standards in the NT brand. As well as publishing, the communications team also comprises professionals in the fields of media relations, public affairs, digital communications and event management.

We will build on our productive relationship with journalists in the trade press, such as the *Health Service Journal*, *National Health Executive*, and *Guardian Society* section to discuss the most salient findings, and would engage external stakeholder organisations in the results in order that they can help disseminate the findings further. We will review and evaluate the impact of our communications activity and refine our approach for each new output.

9 Output and impact of the research

As the previous section noted, we will develop a communications and dissemination strategy for the overall programme as well as for each individual project. Specific project outputs will be linked to the objectives and

presented in different formats as appropriate to suit the needs of the range of evidence users. They will be designed to maximise impact as appropriate to the findings of evaluations undertaken.

In our experience, successful impact starts at the beginning of the evaluation process; selecting the right innovations for evaluation, framing the right research question, identifying the right methodologies to maximise the chances of unambiguous results and so on. Impact and influence also depends on many other factors – from academic credibility, networking skills and personal communication capacity to reputation (amongst 'insiders' and the public/media) and, more broadly, experience in the sort of work this programme plans to do.[46] Using these approaches, the team has undertaken impactful projects in many areas, most notably in research to inform commissioning at local and national levels,[47-50] and research that has had an impact on local and national policy.[4, 7, 51, 52]. Our evaluation of acute stroke service reconfiguration provides a powerful case study of the impact of the approach we would take to enhancing the impact of RSET. Presenting formative findings to key clinician and commissioner stakeholders operating at national and local levels led to the research influencing policy and recommendations,[4, 51] and was pivotal to the decision to further centralise Greater Manchester's acute stroke services (implemented fully in March 2015).[53]

Mindful of the quote by Chris Whitty that "Research is of no use unless it gets to the people who need to use it",[54] our strategy to maximise impact is as follows:

- Investigate relevant research questions that are important to patients, commissioners, providers and other stakeholders
- Co-produce research with patients, the public, professionals and managers to address these questions using rigorous and appropriate research methods applied to the best available data
- Identify the implications of this research for current and future service delivery for the different stakeholders
- Present the evidence in an appropriate format for the range of target audiences
- Be guided by input from evidence users, including patients and the public, in all of the above.

10 Conclusion

This call for rapid evaluation teams is timely, and will help the English NHS to meet a pressing need to become better at learning from innovative ways of working. We believe this call's objectives can be achieved through a programme that prioritises dynamic horizon scanning, responsive topic selection, collaborative research design, rapid data collection and analysis, and providing formative and summative feedback.

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