



# Research Annual Report

## Period: 4/2024 - 3/2025

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Authors	Helen Pocock, Interim Head of Research Operations  Prof Charles Deakin, Research Lead

# Research Annual report 4/2024-3/2025

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## 1. Executive Summary

The UK Policy Framework for Health and Care Research (2017) sets out 19 principles of good practice in the management and conduct of health and social care research. These principles aim to protect and promote the interests of patients, service users and the public. Table 1 shows how SCAS incorporates these principles into our research function.

- From April 2024 to March 2025, SCAS enrolled 969 service users and staff into NIHR portfolio research projects.
- Our research activity levels are amongst the best throughout the UK ambulance services. We were the second highest recruiting site for the PARAMEDIC3 trial and top recruiter for CRASH-4. We have a good reputation for producing high quality data for research.
- Three research studies have completed data collection and analysis this year and eight studies are currently underway. Research activity peaked in October 2024 and January 2025.
- We continue to operate a dedicated fleet of 'Research rapid response vehicles' (R-RRVs) with which we can target our research offering towards patients who could benefit from research participation.
- We aim to upskill our entire workforce. Our research paramedics regularly deliver education and training to frontline teams, and we promote opportunities for experience and training throughout the trust. We host operational staff requiring a period of alternative duties and provide placements for paramedic and medical students.
- We are keen to build upon local, regional and national collaborations to expand and diversify our research offering to patients.
- We conduct audits to inform research, research to inform clinical guidelines. This year we contributed to a national workshop to prioritise the top 20 research questions for sepsis identification, patient treatment and subsequent care.
- We communicate our research findings internally to our staff via our internal SharePoint 'SCAS Hub' and externally to our public and service users via the SCAS website. During the last year, SCAS staff produced 29 publications in peer-reviewed journals, contributions to one book and made 8 conference/meeting presentations.
- In the coming financial year, we will see several large-scale national trials come to an end. We will contribute to the national dissemination of findings from these significant studies and seek new opportunities to engage in research projects through our innovative research-RRV delivery model.

## 2. Context

South Central Ambulance Service NHS Foundation Trust (SCAS) delivers services to the populations of Berkshire, Buckinghamshire, Hampshire and Oxfordshire as well as non-emergency patient transport services in Surrey and Sussex (shown in Figure 1), serving a population of over 7 million and answering over 500,000 urgent and emergency calls a year. The Trust provides 999 emergency services, NHS 111 services, non-emergency patient transport services (PTS), logistics and commercial services and training services. With over 4,500 clinical and non-clinical staff, supported by more than 1,100 volunteers, SCAS ensures a dedicated workforce committed to patient care. SCAS operates a fleet of over 1,300 vehicles and manages 103 buildings strategically located across its coverage area. These resources enable efficient and rapid service delivery.



**Figure 1: SCAS operational area (in yellow; additional PTS areas in 2024-25 in blue)**

The Health Research Authority (HRA) and the UK Health Departments share a commitment to fostering an environment where patients, service users and the public have opportunities to actively engage in health and social care research. This commitment extends beyond mere participation and encompasses involvement in the design and development of research

projects. The overarching goal is to enhance the safety, effectiveness and efficiency of treatments and services by subjecting them to rigorous and ethical testing. Key principles include:

1. **Inclusivity:** Ensuring that patients, service users and the public have a voice in shaping research initiatives.
2. **Ethical Protection:** Implementing robust processes and procedures to safeguard participants and their data.
3. **Transparency:** Making research findings publicly accessible.
4. **Resource Allocation:** Encouraging commissioners, healthcare providers, industry and charities to invest in high quality UK health and social care research.

By fostering collaboration and prioritising research, the aim is to advance healthcare practices and improve outcomes for all.

Our vision is to realise the research potential of South Central Ambulance Service in order to optimise outcomes for our patients and staff. Our research aims align with our organisational values:

- To develop the skills required to conduct research ~ PROFESSIONALISM
- To strengthen the systems within SCAS that facilitate research ~ TEAMWORK
- To recognise and respond to opportunities to develop and conduct research ~ INNOVATION
- To put research findings into practice ~ CARING

Within SCAS, research forms part of the Clinical Directorate. The SCAS Board delegates responsibility for clinical activities to the CRG, of which the Research Steering Group (RSG) is established as a standing group. Research and Development (R&D) functions at SCAS are carried out by a small core team consisting of a Research Lead, Head of Research Operations, Senior Research Paramedic, Research Paramedics, Research Nurse and a Research Administrator. The entire research team collaboratively enhances SCAS' capacity and capability to conduct individual trials. We have a dedicated area for Research on the website which provides valuable information, updates and resources relating to ongoing and completed studies. This can be explored at <https://www.scas.nhs.uk/about-scas/research/>. Additionally, we also maintain an internal 'Research Hub' for staff where they can access training and information about current and upcoming research initiatives. By fostering a culture of research, SCAS actively contributes to safer, more effective healthcare practices and supports paramedics in their registration requirements to participate in clinical research.

SCAS receives funding and support from the following sources:

### 1. Core Research Funding

The National Institute of Health Research (NIHR) provides central funding for research. During 2024-25, the Local Clinical Research Networks (CRNs) were replaced by Regional Research Delivery Networks (RRDNs). Previously spanning two Clinical Research Networks, SCAS' footprint now more closely aligns that of the local RRDN (other trusts within the Milton Keynes area fall under the remit of the South East RRDN). Until 31<sup>st</sup> August 2024, SCAS was financially aligned with CRN Wessex, although also worked closely with CRN Thames Valley and South Midlands. From 1<sup>st</sup> September, our core research funding is distributed through the South Central Regional Research Delivery Network (SC-RRDN).

### 2. Department for Health and Social Care (DHSC)

SCAS benefits from Research Capability Funding provided by the DHSC, assuming we meet certain research activity thresholds. This funding contributes to enhancing research capacity and capability within the trust.

### 3. Non-Commercial and Commercial Sponsors

Research projects are typically funded and sponsored by organisations falling into one of two categories:

- **Non-Commercial Sponsors:** Examples include charities, NIHR, and universities. These sponsors often receive funding as grant awards from competitive peer-reviewed competitions. Scrutiny focuses on achievable aims, proposed processes, and the likelihood of generating high-quality data for public benefit.
- **Commercial Sponsors:** These include pharmaceutical industry and other commercial entities. Their funding supports safe project delivery, covering costs related to equipment, medication, workforce, and supporting teams.

This Annual Report outlines the context and mechanisms that support the delivery of high-quality research in SCAS. In 2018 we developed our first *Research Strategy*, guiding our journey towards maximising the research capacity and capability of the Trust. The aims were aligned with the Trust's commitment to research as outlined in the SCAS *Clinical Strategy*. Our second *Research Strategy, 2024-27*, builds on this work and continues to align with the commitments as stated in the SCAS *Clinical Strategy 2024-28*. We aim to offer every service-

user and staff member the opportunity to be involved with research. This report charts our progress within this context and showcases some of the exceptional research activities undertaken in the last 12 months.

The UK Policy Framework for Health and Care Research (2017) sets out 19 principles of good practice in the management and conduct of health and social care research. These principles aim to protect and promote the interests of patients, service users and the public. Table 1 shows how SCAS incorporates these principles into our research function.

Principles that apply to all health and care research		
	Principle	Achieved through
1	<b>Safety</b> The safety and well-being of the individual prevail over the interests of science and society.	Risk assessment for each study, Training, Study SOPs, Principle Investigator (PI) oversight via weekly PI reports, External monitoring, RSG project oversight.
2	<b>Competence</b> All the people involved in managing and conducting a research project are qualified by education, training and experience, or otherwise competent under the supervision of a suitably qualified person, to perform their tasks	Good Clinical Practice (GCP) certification, Trial-specific training, Internal 6-monthly audit of training, Supervision.
3	<b>Scientific and Ethical Conduct</b> Research projects are scientifically sound and guided by ethical principles in all their aspects	NHS Research Ethics Committee (REC) review and Health Research Authority (HRA) approval prior to project start,
4	<b>Patient, Service User and Public Involvement</b> Patients, service users and the public are involved in the design, management, conduct and dissemination of research, unless otherwise justified.	Funder requirement for Patient and Public Involvement (PPI), Meetings recorded in project Investigator Site File (ISF).
5	<b>Integrity, Quality and Transparency</b> Research is designed, reviewed, managed and undertaken in a way that ensures integrity, quality and transparency.	Training, Project review by Research Steering Group (RSG), Upward reporting to CRG, Study-specific risk assessments, Study SOPs, Principal Investigator (PI) oversight via weekly PI reports, External monitoring, RSG project oversight.
6	<b>Protocol</b> The design and procedure of the research are clearly described and justified in a research proposal or protocol, where applicable	External study protocols scrutinised as part of initial SCAS Capability and Capacity assessment, Internal study protocols subjected to external scrutiny.

	conforming to a standard template and/or specified contents.	
7	<p><b>Legality</b></p> <p>The researchers and sponsor familiarise themselves with relevant legislation and guidance in respect of managing and conducting the research.</p>	Training, Review by IG team, Research agreements/contracts reviewed before study start.
8	<p><b>Benefits and Risks</b></p> <p>Before the research project is started, any anticipated benefit for the individual participant and other present and future recipients of the health or social care in question is weighed against the foreseeable risks and inconveniences once they have been mitigated</p>	Study specific risk assessment, Training, Study SOPs, HRA approval, RSG/CRG review,
9	<p><b>Approval</b></p> <p>A research project is started only if a research ethics committee and any other relevant approval body have favourably reviewed the research proposal or protocol and related information, where their review is expected or required.</p>	REC approval and HRA approval in place prior to study start. Internal approval via RSG and/or CRG according to risk level of project.
10	<p><b>Information about the Research</b></p> <p>In order to avoid waste, information about research projects (other than those for educational purposes) is made publicly available before they start</p>	Studies registered on international research registries prior to study start, Transparency notices posted on SCAS website where appropriate.
11	<p><b>Accessible Findings</b></p> <p>Other than research for educational purposes and early phase trials, the findings, whether positive or negative, are made accessible, with adequate consent and privacy safeguards, in a timely manner after they have finished, in compliance with any applicable regulatory standards.</p>	Publication on SCAS website, Addition to SCAS Research Viva Engage channel, Presentation to Clinical Review Group (CRG), Annual report, Submission for publication in peer-reviewed journals and at conferences.
12	<p><b>Choice</b></p> <p>Research participants are afforded respect and autonomy, taking account of their capacity to understand. Research participants are given information to understand the distinction and make a choice, unless a research ethics committee agrees otherwise. Where participants' explicit consent is sought, it is voluntary and informed. Where consent is</p>	Prior informed consent obtained and documented for each study as appropriate, Protocolised procedures followed and documented for emergency research without prior consent, Training, External monitoring.



	refused or withdrawn, this is done without reprisal.	
13	<p><b>Insurance and Indemnity</b></p> <p>Adequate provision is made for insurance or indemnity to cover liabilities which may arise in relation to the design, management and conduct of the research project.</p>	Membership of Clinical Negligence Scheme for Trusts (CNST) administered by NHS Resolution, Review of agreements and contracts prior to study activities commencing.
14	<p><b>Respect for Privacy</b></p> <p>All information collected for the research project is recorded, handled and stored appropriately and in such a way and for such time that it can be accurately reported, interpreted and verified, while the confidentiality of individual research participants remains appropriately protected.</p>	GDPR training, SCAS IG policies and procedures, DPIA completed for each study.
15	<p><b>Compliance</b></p> <p>Sanctions for non-compliance with these principles may include appropriate and proportionate administrative, contractual or legal measures by funders, employers, relevant professional and statutory regulators, and other bodies.</p>	External monitoring, Study-specific audits, PI oversight.
<b>Principles that apply to <i>interventional</i> health and social care research</b>		
16	<p><b>Justified Intervention</b></p> <p>The intended deviation from normal treatment, care or other services is adequately supported by the available information (including evidence from previous research).</p>	Funder ensures expert review of study rationale. Clinical review of projects at CRG.
17	<p><b>Ongoing Provision of Treatment</b></p> <p>The research proposal or protocol and the participant information sheet explain the special arrangements, if any, after the research intervention period has ended (e.g. continuing or changing the treatment, care or other services that were introduced for the purposes of the research).</p>	Sponsor approval of study-specific research protocol, REC and HRA approval of participant information sheets.
18	<p><b>Integrity of the Care Record</b></p> <p>All information about treatment, care or other services provided as part of the research project and their outcomes is recorded, handled and stored appropriately and in such a way and for such time that it can be understood, where relevant, by others involved in the participant's care and accurately reported, interpreted and</p>	SCAS policies and procedures, Study-specific training, Internal audit of patient clinical records, External monitoring.

	verified, while the confidentiality of records of the participants remains protected.	
19	<b>Duty of Care</b> The duty of care owed by health and social care providers continues to apply when their patients and service users take part in research.	Training, GCP certification, SCAS policies and procedures, RSG and/or CRG review of projects.

Each month we report the number of people enrolled into research to Wessex Clinical Research Network via the online EDGE reporting system. From April 2024 to March 2025, SCAS enrolled 969 service users and staff into NIHR portfolio research projects.

### 3. Performance against last year's annual plan

Challenge	Standard	Action	Lead	Summary of progress
Build research infrastructure	Build resilience into finance management	Development of a consolidated budget tracker would support management of research budgets	Research team & RSG	Budget tracker built. Final elements of process being worked through.
	Take opportunities to obtain funding to build infrastructure	Ensure appropriate use of 2023-24 awarded Research Capability Funding and eligibility for 2024-25 allocation	Research team & RSG	2023-24 allocation spent. Have hit target for eligibility for 2024-25 allocation.
	Embed research dispatch in business as usual for the Emergency Operations Centre (EOC)	Research Dispatcher/ Research Assistant to increase research awareness and dispatching to incidents of research relevance.	Research team & RSG	Research Dispatcher role introduced. Funding has now ended. New model being pursued.
Upskill workforce	Every new member of SCAS staff to be aware of research function	Research presentation to be included in all corporate induction courses.	Research team & RSG	Video produced but not currently included on corporate induction despite requests.
	Increase awareness of research training	Share details of opportunities with staff on SharePoint.	Research team & RSG	Any opportunities are publicised via SharePoint.

	and educational opportunities throughout the trust			
	Ad hoc opportunities should be available for operational staff to be involved in research	Operational staff to be accommodated in research team if appropriate during temporary periods of alternative duties.	Research team & RSG	Six Operational staff members accommodated in Research team during 2024-25. All GCP trained.
Develop research collaborations	Work with regional research support networks to increase research offering to SCAS patients, service users and staff.	Work with new RRDN to identify, initiate and deliver research projects	Research team & RSG	New RRDN structures only recently put in place. Team members working with all relevant specialties to bring in new research projects.
	Collaborate with national counterparts to develop further research opportunities for SCAS	Contribute to NARSG. Seek collaborative opportunities through this forum.	Research team & RSG	Expressions of interest and letters of support provided for new projects. Awaiting funding outcomes.
Aligning research with practice	Actively seek opportunities to deliver relevant projects	Submit expressions of interest (EoI) in relevant high-quality external research projects	Research team & RSG	One new major national project opened this year. Another in approval stage. 19 Eols submitted.
	Ensure research findings are translated into practice	Work with SCAS Education team and others to translate research findings into practice in a timely manner	Research team & RSG	Translation of PARAMEDIC3 findings via RCUK 2025 guidelines. To be released later this year.
Dissemination of research findings	Ensure staff and governors have access to research findings	Our completed research projects should be promoted via SharePoint	Research team & RSG	Findings of completed projects promoted via Research Hub page.
	Research findings should be shared externally with peers and public	Staff should be encouraged and supported to present findings of their projects at	Research team & RSG	Three staff members made conference presentations at 999 EMS

		conferences and other events.		Research Forum in 2024.
Sustainability	Achieve financial sustainability	Explore opportunities to work with commercial partners, recognising the potential for such partners to make significant revenue contributions	Research team & RSG	SCAS are part of the Wessex Clinical Delivery Research Centre (CDRC) (awarded in 2024) and have been invited to take part in the Oxford CDRC bid this year.
	Identify clinical excellence through research	Recognise and promote good practice, either in the results of research projects or during the course of data collection	Research team & RSG	Team members email staff and their managers where clinical excellence is identified.

## 4. Achievements

### 4.1 Completed studies

SCAS has contributed to the following research studies that have completed data collection and analysis this year:

- **Pre-hospital randomised trial of medication route in out-of-hospital cardiac arrest (PARAMEDIC-3) (IRAS 298182)**

This large national trial assessed the most effective way to treat patients sustaining out-of-hospital cardiac arrest by giving resuscitation medication either directly into the bloodstream (intravenous, I.V) or into a bone (intra-osseous, I.O). By answering this question, the study team hope to improve survival and quality of life outcomes for patients in future.

<https://pubmed.ncbi.nlm.nih.gov/39480216/>

- **Geospatial mapping of emergency calls by older people, with a focus on people living with dementia, in the South Central region**

This multidisciplinary, multiagency project extracted routinely collected data to produce geospatial maps highlighting areas of highest demand or where Community First Responders may be most needed. Results of this study have been published as a preprint and stakeholder meetings have been held to identify priorities for future research.

- **PARAID Study: Paramedic delivery of end-of-life care: a mixed methods evaluation of service provision and professional practice (IRAS 327727)**

This was a four-phase study. SCAS was involved with the first phase, a large-scale online survey to evaluate current practices, factors influencing professional contribution and the potential for the paramedic workforce to improve end-of-life care. The project team then analysed models of service delivery and decision making to generate recommendations to support end-of-life care.

<https://pubmed.ncbi.nlm.nih.gov/39709434/>

## 4.2 Ongoing studies

We are currently contributing to the following studies and clinical trials that seek to improve the care we deliver to our patients:

- **A Phase IIIb Randomized open-label study of Nirsevimab (versus no intervention) in preventing hospitalizations due to respiratory syncytial virus in infants (HARMONIE) (IRAS 1005180)**

The study determines the efficacy and safety of a single intramuscular dose of Nirsevimab, compared to no intervention, for the prevention of hospitalisations due to lower respiratory tract infection caused by confirmed Respiratory Syncytial Virus (RSV). The study enrolled infants under 12 months of age who are not eligible to receive Palivizumab. SCAS has provided vaccinations to 70 patients in this project, who would not otherwise have been able to access this treatment. The clinical trial showed that hospital admissions from a winter virus could be reduced by more than 80% if babies are given a single dose of a new antibody treatment. It is now being considered for a national immunisation programme. Prof Saul Faust and Dr Katrina Cathie from the trial team have spoken about the trial across national press, including on the BBC News at Ten, Sky News and BBC Radio 2 and 4. This year we have been involved in the follow up phase of the study.

- **Randomised control trial to understand whether prescribing choice for inhalers is influenced by knowledge of the CARBON footprint (REDUCE CARBON) (IRAS 285768)**

The study is looking to explore prescribing behaviours surrounding inhaler selection and what information, including knowledge of the carbon footprint, may influence this choice. The study team have invited a wide range of healthcare professionals and patients to answer an online survey. The study is now in its data analysis phase.

- **Clinical randomisation of an anti-fibrinolytic in symptomatic mild head injury in older adults (CRASH-4) (IRAS 283157)**

CRASH-4 is seeking reliable evidence about the effects of early intramuscular tranexamic acid medication on intracranial haemorrhage, disability, death, and dementia in older adults with symptomatic mild head injury. Using our unique research cars model of study delivery, SCAS has reached more patients than any other research site in the UK.

- **EarLy Surveillance for Auto-immune type 1 diabetes (ELSA) (IRAS 309252)**

Early detection of type 1 diabetes mellitus from the general population would allow insulin treatment to be started sooner, avoid type 1 diabetes mellitus being diagnosed as an emergency, improve glycaemic control, and would identify children who can be offered novel clinical trials of therapies for diabetes prevention. Enrolment is currently being offered by Research paramedics/nurses via schools and community events. This study has been extended this year, specifically to increase the diversity of research participants.

- **Spinal Immobilisation Study (SIS) (IRAS 316755)**

This is a randomised controlled trial to compare methods of cervical spine (neck) immobilisation in the pre-hospital emergency setting. Paramedics are assessing patients' nerve function at injury, when they arrive at hospital and when they leave hospital. Any side effects and measures of wellbeing are also monitored.

- **Specialist pre-hospital redirection for ischaemic stroke thrombectomy (SPEEDY) (IRAS 312053)**

This study aims to test a new specialist prehospital pathway. By redirecting patients straight to a hospital with a specialist stroke centre we may be able to reduce delays to surgery to remove blood clots from the brain in acute stroke. This may enable patients to make a better recovery.

- **Cardiac arrest bundle of care trial (CABARET) (IRAS 329970)**

This home-grown randomised controlled trial aims to evaluate the feasibility of performing a new 'bundle of care' intervention for patients in cardiac arrest comprising 3 elements: Head up cardiopulmonary resuscitation (HUP-CPR), Active compression decompression CPR (ACD-CPR) and Impedance threshold device (ITD). This may allow us to go on to deliver a definitive randomised controlled trial examining the 'bundle of care' vs usual care. Due to

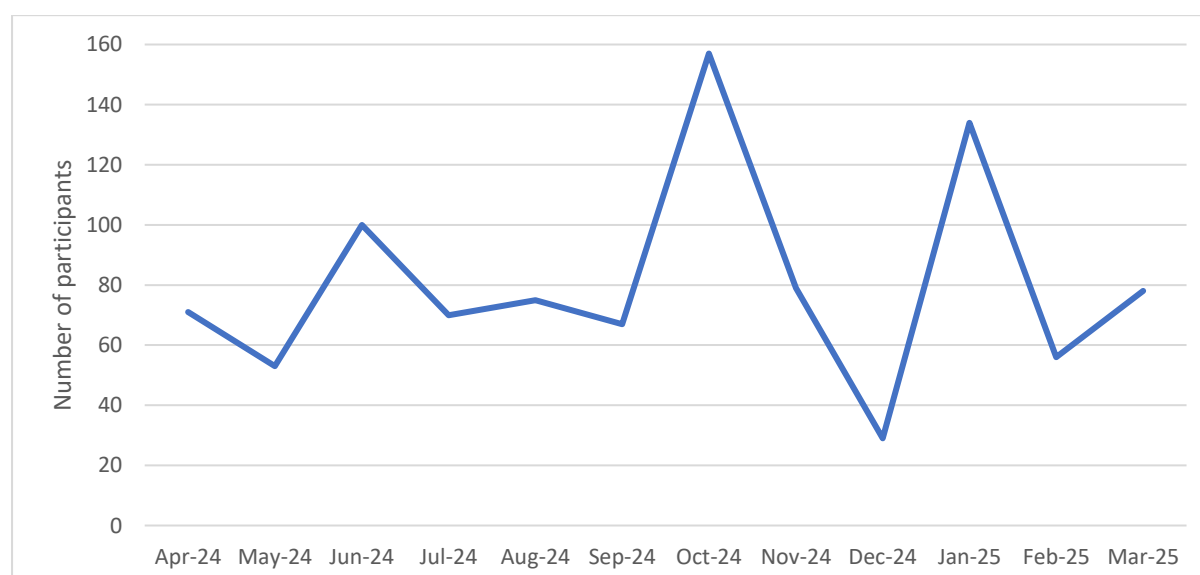
limitations in the number of devices available, only our research paramedics will be involved in this trial.

The study team has published a systematic review of the literature informing this study: <https://pubmed.ncbi.nlm.nih.gov/39309748/>

- **Randomised trial of clinical and cost effectiveness of administration of prehospital fascia iliaca compartment block for emergency hip fracture care delivery (RAPID-2) (IRAS 291853)**

The aim of this randomised controlled trial is to test the safety, clinical and cost-effectiveness of paramedics providing fascia iliaca compartment block (FICB) as pain relief to patients with suspected hip fracture in the prehospital environment. Due to the training requirement, only our research paramedics will be engaged in this trial.

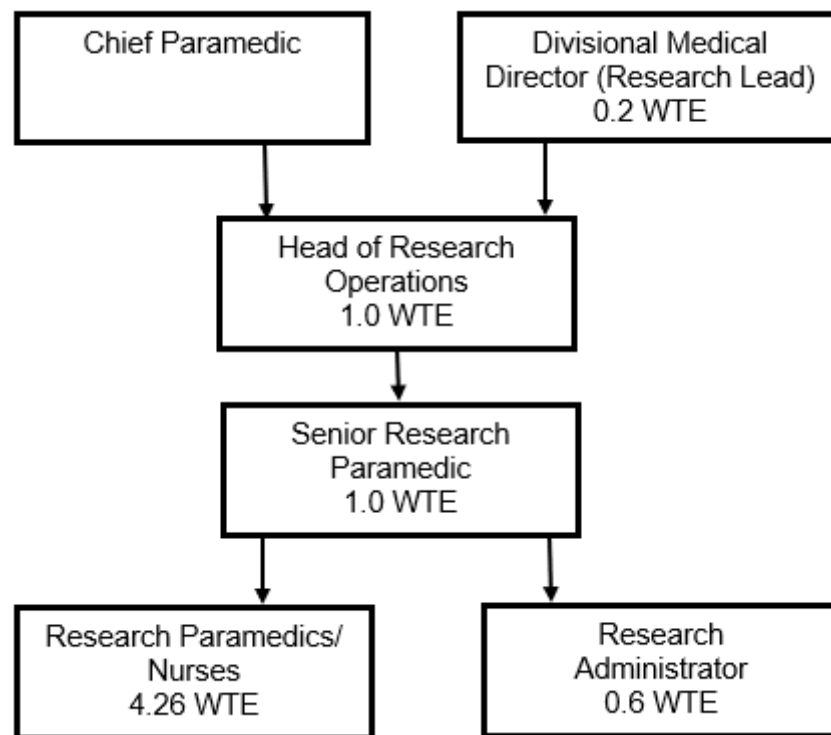
Figure 2, below, shows the numbers of people enrolled into research trials during the last 12 months. This is contextualised within the overall lifecycle of the respective trials in Appendix C where graphs for each trial are presented. Some of the above-mentioned trials are not included in these graphs as they completed recruitment during 2023-24; only follow-up and analysis activities were underway in the year 2024-25.



**Figure 2: Research enrolments into NIHR portfolio research projects during 2024-25**

## 5. Infrastructure supporting research

We are a small team, as can be seen in the organogram in Figure 3. In addition to research delivery, we also have a research governance function, to ensure that we have the resources in place to deliver properly funded, relevant research.



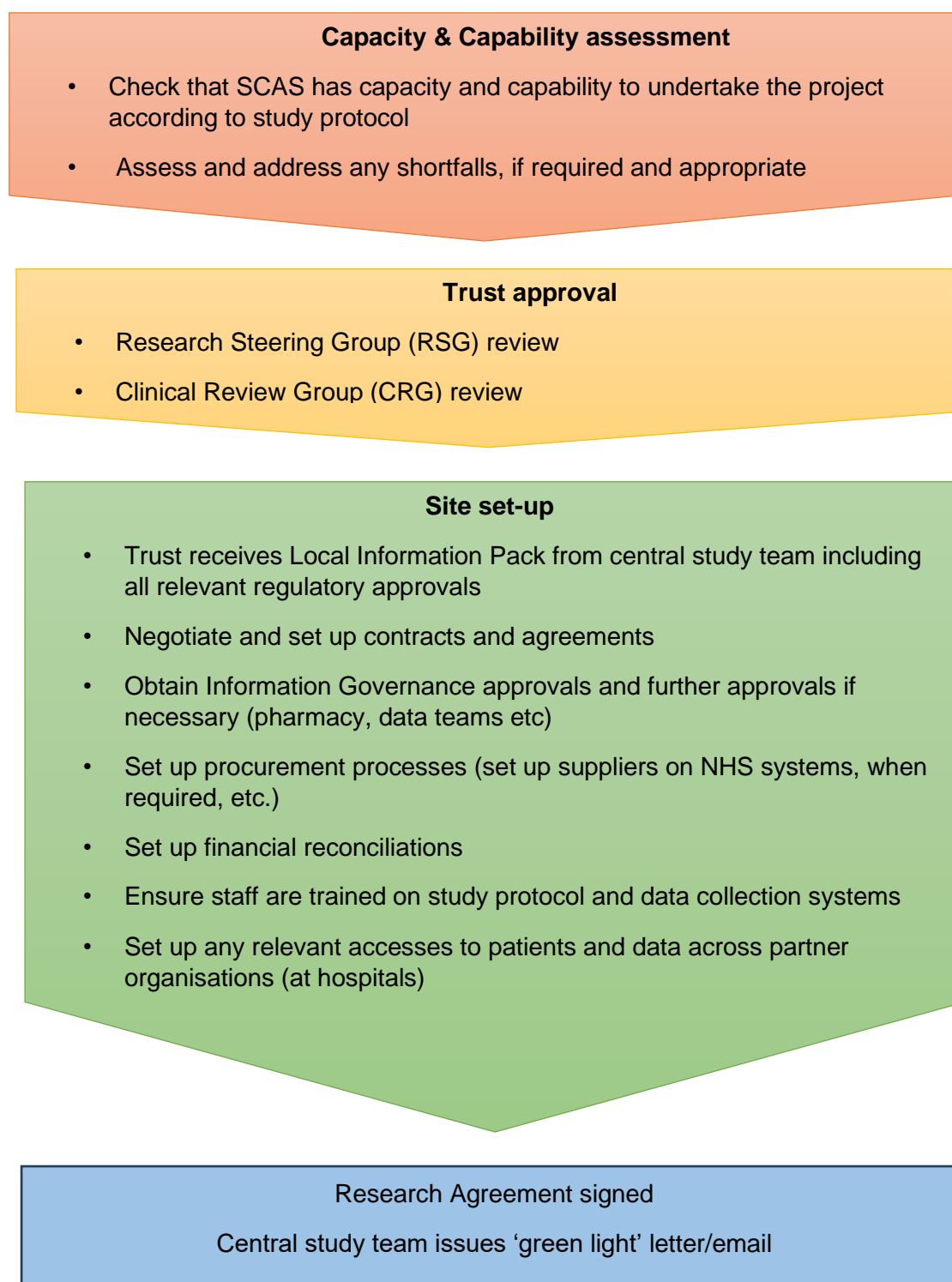
**Figure 3: Organogram for Research team**

The Health Research Authority (HRA), an arm's length body of the Department for Health and Social Care, is the body responsible for reviewing and approving research projects conducted in the NHS. Through application to the HRA, researchers can seek all regulatory reviews and approvals, such as independent ethical review of projects by NHS Research Ethics Committees, including the Confidentiality Advisory Group.

Prior to starting to recruit patients to research studies, prospective researchers must first approach SCAS to consider collaboration and delivery on their projects. The SCAS Research team assess the Trust's capacity and capability to deliver the project (each project has different resource and infrastructure requirements). Following this assessment, the project is reviewed and approved by two SCAS committees. Firstly the Research Steering Group (RSG) which comprises research Subject Matter Experts (SME), and then the Clinical Review Group



(CRG) comprising the clinical and operational leaders within the Trust. The flow chart in Figure 4 summarises this internal process.



**Figure 4: Flow chart of SCAS' internal research approval process.**

The study set-up process can then begin. By streamlining the entire governance process, the Research Steering Group has reduced the time it takes to set up safe, high-quality research projects in the Trust. When the research project is underway, the SCAS research team provides ongoing research governance and SME oversight to any research project accepted via the Research Steering Group. External monitors provide additional oversight either through central monitoring processes or by visiting the Trust to inspect our research operations.

Throughout the past year we have continued to forge stronger links with other internal trust departments. The research team is now more closely aligned, for shared working, to the frontline clinicians and operational leaders, the Clinical Co-ordination Centre (CCC), Business Analysis, Information Governance, Pharmacy, Procurement and Finance teams as well as the Trust Board. With this inter- departmental working in place the RSG team are now more able to seek and take up opportunities for further research projects.

### 5.1 Innovation: 'Research car' initiative

We continue to be one of only two trusts nationally to operate a dedicated fleet of 'Research rapid response vehicles' (R-RRVs). Our small fleet of rapid response cars are staffed by research paramedics and attend both 'cases of research interest' and Business as Usual (BAU) incidents when required. Through use of the R-RRVs, we can target our research offering towards patients who could benefit from particular studies. As well as its research function, the fleet also contributes to addressing and preventing BAU ambulance response delays. Since it is staffed by paramedics, the initial emergency can be managed by our team, often prior to arrival of an ambulance.

Through this innovation, our team can deliver research in the community or in people's homes, with the added reassurance that our staff and their equipment can bring to their familiar environment. Using research cars, we have increased the number of patients who could be offered investigative trial medication (CRASH4 trial), new clinical equipment (CABARET trial), a new procedure (SIS, RAPID2 trials) or a new clinical pathway (SPEEDY trial) despite the extreme service pressures felt by ambulance services nationally. The cars have also enabled us to offer the ELSA study in schools and local communities, sometimes the number of interested research participants has exceeded the capacity of our event team and our R-RRVs have been drafted in to support. This has ensured that no potential participant has been turned away.

Set-up of this initiative was co-sponsored by, what was then, the Wessex and Thames Valley and South Midlands Clinical Research Networks (CRNs). The funding received enabled us to purchase essential equipment such as laptops, electronic patient record (ePR) devices, ambulance radios, specific resuscitation equipment, ambient and cool storage for research medication onboard the vehicle and out in the community. This equipment and resources are shared with the Operational teams, when required, in benefit of ongoing research.

## **6. Developing a skilled workforce**

Research is part of the core business of the NHS and, as such, we continue to foster research engagement throughout the career journeys of all of our staff, offering research opportunities not only to our patients but also to our staff and other service users. Our research paramedics regularly deliver education and training to frontline teams, and we promote opportunities for experience and training throughout the trust. We continue to promote a research culture through our interactions at all relevant trust committees and groups, our communications with staff and our support and encouragement of evidence based practice.

Our core research function is currently delivered by 10 team members, comprising a variety of clinical and non-clinical roles. Our team brings a wealth of knowledge and experience not only from the ambulance and air ambulance frontline, but also from the clinical co-ordination centre, primary care, university faculty and administrative teams. All research team members complete regular Good Clinical Practice (GCP) training and we ensure that all new members of staff undertake this training as part of their induction programme. We hold formal qualifications in UK GDPR and AGILE project management. Expanding knowledge in these areas not only improves the safeguarding of patient's rights, accuracy of the data reported and efficiency of data processing, it also allows the research team to comply with the trust information governance policies and embed data protection into all processes when setting up studies.

In addition to our core team, we also welcome staff requiring a temporary period of working on alternative duties. All temporary team members are inducted into the team and are allocated specific tasks depending on need and existing skills. Whilst with us, they have the opportunity to expand their practical research knowledge and skills through supporting our delivery of national and local studies. Our temporary staff have reported high satisfaction levels during their time with us and return to their substantive roles with new knowledge and experience which also enhanced their CV and annual professional development.

We also operate a Trust-wide 'research advocates' initiative. Members of staff keen to support research can assist with research tasks at a local level. They complete audits of research resources when required and promote our research portfolio to their peers. They remind staff to complete training on trial procedures and signpost colleagues to research opportunities such as online webinars. In return, we provide further opportunities for development which can be evidenced in their professional portfolios.

We continue to support and promote opportunities to those considering a research career, particularly those offered by the NIHR and the local Research Delivery Networks. We advertise training, development and other funding opportunities on the SCAS Research Home (internal SharePoint). We are delighted to announce that in the last year one of our core research team has secured a highly competitive NIHR bursary to fund a Master's degree in research (MRes). This has enabled our team member to undertake short courses to supplement their academic studies, and to apply their learning to development of a protocol for their own research project. We are also providing clinical academic mentorship to a SCAS paramedic who is currently undertaking an NHSE/NIHR ICA Pre-doctoral Clinical and Practitioner Academic Fellowship. In the last 12 months another of our team members was awarded a PhD in Health Sciences and a PGCert in Transferable Skills in Science from the University of Warwick. This has provided essential skills and experiences enabling them to step up to the role of Interim Head of Research Operations following the departure of the substantive postholder earlier in the year. We hope that all of our staff continue to build on these funded research development opportunities to become research leaders of the future.

We also provide placement opportunities to both medical and paramedic students. Paramedic students shadow research paramedics as they go about their daily tasks, usually working on the research cars or collecting research data. This is a great opportunity for our future paramedics and helps reinforce awareness of the HCPC Standards of Proficiency (2023) requiring all registrants to engage service users in appropriate research. Medical students from University of Southampton had the chance to join our research paramedics on shift on the research car. For these future doctors, this was a unique experience where they could witness delivery of emergency research in the community. We anticipate that these experiences will lead to new research opportunities for the ambulance service in the future as these paramedic and medical students become qualified and start to develop research projects of their own.

## 7. Developing collaborations

### 7.1 Regional Research Delivery Network (RRDN)

The new Regional Research Delivery Networks are just beginning to embed. New leads are being appointed and, to date, we are represented on the following newly developed South Central regional committees:

- SC-RRDN Allied Health Professionals Group
- SC-RRDN Research & Development Managers Group
- SC-RRDN Clinical Delivery Team Leads Group
- SC-RRDN Emergency Care Specialty Group
- SC-RRDN Children Specialty Group
- SC-RRDN Community Settings Group

Membership of these groups will be essential for developing relationships with our local acute and community trusts and promoting out-of-hospital research.

### 7.2 Clinical Research Delivery Centres

Building on the outstanding work of the vaccine hubs across the country in response to the pandemic, the Department for Health and Social Care (SHSC) is creating Clinical Research Delivery Centres (CRDC). The aim is to improve the health and wealth of the nation by accelerating the delivery of commercial research. SCAS is proud to collaborate with our local acute hospital trusts in the Wessex CDRC to deliver a range of high-quality studies serving our local population. This is an example of cross-boundary joined-up working, almost unheard of pre-pandemic but now becoming a vision for a sustainable future model of working.

We are currently exploring opportunities to be involved with the Oxford Primary Care CDRC.

We are represented on the following regional committees:

- NIHR Wessex CRDC Management Board
- NIHR Wessex CRDC Delivery Group

### 7.3 Local project collaborations

Whilst it is important for the trust to contribute to large national research projects, it is also important that we remain responsive to local needs. Our local collaborations are designed to specifically benefit local patients. Our work with the Universities of Portsmouth and

Southampton exploring care and outcomes of people with dementia is an example of such focus. This series of projects has previously audited the care of people with dementia, explored possible predictors of whether a patient is conveyed to hospital or cared for at home and surveyed frontline staff regarding their recording of suspected dementia on the patient record. This year we analysed data and produced geospatial maps of calls to patients with dementia-type needs. We have collaboratively developed a funding application to build on this work, with the aim of reducing inequality of access to services for this patient group. Together, these projects will help us to target and deliver the most appropriate care in the most appropriate setting.

This year we completed a one-year evaluation of the 'Take Home Naloxone (THN)' nasal spray pilot programme commissioned by a local county council. SCAS crews carry THN nasal spray kits which can be left with friends or family of patients with life-threatening overdose of illicit opioid drugs in case of future similar events. This scheme places this potentially life-saving medication in a place that could be accessed prior to the arrival of an ambulance. We identified patterns and trends in opioid overdose as well as opportunities to increase distribution of the THN kits. Our findings have been shared with the local county councils and we are currently designing a video to get a clear and consistent message to our frontline staff.

We have successfully collaborated with Hampshire and Isle of Wight Air Ambulance (HIOWAA) this year in the design and delivery of a feasibility trial of a bundle of care for patients sustaining out-of-hospital cardiac arrest. We anticipate this will be the first of many projects and collaborative opportunities to improve the delivery of critical care to our service users .

#### 7.4 National Ambulance Research Steering Group

Membership of this group keeps us linked with the other ambulance services. The monthly meetings alternate between the usual business of the group and feasibility discussions with researchers (who bring their early research ideas to the group for advice). This has been beneficial to all stakeholders and increased the quality of the projects and optimised their potential to recruit to time and target. One of the strengths of this group is their ability to respond to national developments with a single voice.

## 7.5 National collaboration

We are delighted to play an important part in some of the most ground-breaking national out-of-hospital studies in recent years. In addition to being involved in both the design and delivery of the high-profile PARAMEDIC3 and CRASH4 trials, we have also engaged in other significant projects at an early stage, such as SIS, helping to shape trial delivery as they are expanded nationally. Our Research-RRV model has attracted researchers who have needed a boost in participation in their studies. We have successfully opened the RAPID2 trial this year, increasing the number of patients who can be offered pain relief following suspected hip fracture.

We continue to explore research possibilities with both small companies and with a large multi-national pharmaceutical company who are interested in our R-RRV and community models of research engagement. We are currently exploring possibilities that could offer benefits to our patients through this collaborative research model.

## 8. Aligning research with practice

We continue to highlight standard 13.11 of the Standards of Proficiency for HCPC Paramedics which requires that paramedics need to “*engage service users in research as appropriate*” We advise staff how to accurately record research participation on their clinical records and also to note reasons for ineligibility where appropriate.

### 8.1 Audits informing research and practice

We are now nearing completion of ‘**Install and evaluate dementia button on ambulance electronic patient record**’ (IDEAS2) (IRAS 326775). This project, funded by The Health Foundation, aimed to develop, implement and evaluate a specific section for recording dementia on SCAS’s ePR. The first of our project outputs has been published in a peer-reviewed journal and the second is in preparation:

<https://pubmed.ncbi.nlm.nih.gov/39246834/>

Delivering resuscitation to treat cardiac arrest is a high-demand patient management scenario. As such, frontline emergency personnel may benefit from discussion post-event to enable learning for all involved in delivering care. In the ‘**Resuscitation debrief**’ **scoping project**, we audited amongst a small number of staff, the proportion of cases where debrief was undertaken, where and by whom. We found that in around half of cases, a debrief was conducted, most often by a Team Leader at hospital following patient handover. This provides

interesting data on which to potentially build a research project. We have shared these data with our ambulance colleagues at the national 999 Emergency Medical Service conference.

We have now submitted a manuscript to a peer-reviewed journal for the **Bystander availability and Automated External Defibrillator (AED) acceptability during out-of-hospital cardiac arrest (BYSTANDER) project**. We have listened to cardiac arrest 999 calls to ascertain how a bystander responds if they are asked to fetch an Automated External Defibrillator (AED). This paper will report how often an AED could have been used and the reasons why people might have difficulty fetching or using an AED. This will help ambulance services to plan AED deployment and help target future public education campaigns.

## 8.2 Research to inform clinical practice guidelines

Equally important as taking part in research is the commitment to translate research findings into clinical practice. Two members of our research team (our Research Lead Prof. Charles Deakin and our Interim Head of Research Operations Dr. Helen Pocock) hold voluntary positions with the International Liaison Committee on Resuscitation (ILCOR), the body providing evidence evaluation and recommendation to the global resuscitation councils. In October 2024 they attended an international meeting of ILCOR in Taipei, Taiwan, to develop consensus on science and treatment recommendations for all aspects of advanced life support following cardiac arrest. Both are also members of the European Resuscitation Council (ERC) 2025 Guideline-writing group and the Resuscitation Council UK (RCUK) 2025 Guideline-writing group. The ERC and RCUK 2025 resuscitation guidelines revisions are now underway. Prof. Charles Deakin is also the lead for the evidence-based JRCALC adult and paediatric resuscitation guidelines.

## 8.3 Exercises to guide national research

This year we were delighted to be invited to contribute to a national workshop to prioritise the top 20 research questions for sepsis identification, patient treatment and subsequent care. This enabled us to advocate for our patients and exert influence at a national level regarding priorities that are important to our patients. The nationally agreed priorities are helpful to funders making decisions about appropriate direction of research resources. The outcome of this exercise can be found at the following address: <https://sepsisresearch.org.uk/research-priorities/>



## 9. Disseminating research findings

We continue to maintain high visibility of research within the Trust by establishing our own community within 'Viva Engage', our internal social media platform. Members of the team regularly Engage other members of the Trust about ongoing and planned research projects. Opportunities to take part in studies or become a research advocate are also advertised on this SharePoint.

We have an area on the SCAS website dedicated to research, which can be accessed here: <https://www.scas.nhs.uk/about-scas/research/>. This is where our Research strategy and Annual report are posted. Also located here is information for patients regarding the use of their data in research and information for researchers about how to obtain approval for their research projects to be conducted in the trust. We post information about our ongoing studies and summaries of the results of completed projects with links to research papers where applicable.

During this period, we have also communicated our research to our public and peers. SCAS staff produced 29 publications in peer-reviewed journals, contributions to one book, and made 8 conference/meeting presentations. These are listed in appendices A & B. Conference presentations provide a rare opportunity to meet with other out-of-hospital researchers and learn first-hand about not only their findings, but also their challenges and opportunities for further research.

SCAS research output exceeds that of most of the UK ambulance services. We have developed a good reputation for collaborative working and the ability to deliver on projects, often being one of the highest recruiting ambulance services for national studies.

## 10. Sustainability

The research RRV initiative highlights the importance of the Clinical Co-ordination Centre (CCC) teams to the delivery of research. Our 12-month Research Dispatcher initiative increased access to research opportunities for our patients by embedding research-related dispatching into the business-as-usual Dispatch plan. We tested both clinician and non-clinician dispatching and are currently analysing results. Now that we have moved to business-as-usual dispatch for research, our Research Paramedics will assist CCC Dispatchers to identify incidents of research relevance and request attendance. Dispatchers can also alert ambulance crews to opportunities for research enrolments. We will continue to monitor this

model going forwards and seek to continuously improve accessibility of research to our patients and service users.

Each research project brings funding in order that the activity does not detrimentally impact on the other important day-to-day functions of the Trust. It is essential that we track our research income against our outgoings so that we not only sustain, but also grow, our research capacity. This year we have created a new tracker spreadsheet encompassing all of our projects in order that we can anticipate any financial pinch points, and plan accordingly. Each year trusts may be eligible to receive Research Capability Funding allocations awarded by the Department of Health and Social Care. This is linked to the trust's recruitment figures (the number of people enrolled into research projects). This year we are delighted to report that we were eligible for the non-commercial allocation, bringing extra funding into the trust to be spent on increasing our research capability.

We now include AI-produced avatar-delivered presentations in our suite of online education and training resources. These easily accessible and consistent learning activities are extremely beneficial for busy clinicians who might traditionally have needed to travel to an education session. Building a clear, shared understanding of what is necessary for successful research is so important to build sustainable activity.

We continue to support non-research team staff with their projects, from the early stages of development to dissemination of research findings, often including poster presentation at conference.

To sustain and grow our research activity we need to promote the work of the team both internally and externally. We distribute our unique 'business cards': banner pens highlighting our capabilities and reach for potential external collaborators and our links and resources for our future internal collaborators.

Our relatively small team, combined with a very significant workload, has resulted in limited research resilience. This was particularly evident when our Head of Research Operations left during the last financial year. The team rapidly reorganised their individual priorities, but inevitably this has resulted in an ongoing limitation in capacity to optimise recruitment to existing studies and seek and take up opportunities for new research projects. We are currently recruiting to interim positions within the team, with a view to making permanent appointments in the new financial year.

The main challenges for designing and delivering research within SCAS are currently:

- Internal rate-limiting factors, such as the capacity of other internal teams.

- Limited resilience due to small team size.
- Insufficient staffing levels to provide medical student placement.
- Inability to act as research sponsor for anything other than the lowest risk projects.
- The cyclical nature of research funding that occurs as each funded research study is introduced, conducted and then concludes. This is a particular challenge for baseline funding to support the core research team.

## 11. Future plans

In the coming financial year, we will see several large-scale national trials come to an end. We will contribute to the national dissemination of the findings from these significant studies and the all-important conversations enabling knowledge mobilisation into clinical practice. One of our priorities is to re-establish a stable team by making permanent appointments to the leadership structure. Once this is in place, we will be in a good position to seek new opportunities to engage in research projects.

During this period of instability we intend to continue with planned development of our team and members of the wider trust in response to their needs. We will work closely with our leadership team to find flexible models of working that give staff time and resources to not only take part in, but also develop their own, research alongside their current roles. We aim to increase the number of staff trained to deliver research projects thereby giving patients a greater number of opportunities to take part in research.

### 11.1 Research projects currently in set-up

We are excited to be preparing for the opening of the What works to improve safety, patient experience, outcomes and costs related to delayed ambulance handovers at Emergency Departments (STALLED) study (IRAS 340963). This mixed methods study will explore ambulance and hospital data and stakeholder experiences to identify strategies to reduce handover delays at hospital.

We are soon to open the Ambulance Clinicians' Experiences of Attending Out of Hospital Cardiac Arrest in Children (POHCA-PHD) study (IRAS 344286). This mixed-methods study aims to understand clinicians' lived experiences to allow the development of strategies which support clinicians and enhance patient care.

We are keen to retain the enthusiasm for and build on the successes of UK healthcare research of the past 12 months. We intend to further build our research capacity and hence improve our care for all of our patients, service users and staff.

## 11.2 Annual plan

Challenge	Standard	Action	Lead
<b>Build research infrastructure</b>	Generic Research SOPs should be maintained to ensure they are relevant and fit for purpose.	Gap analysis of generic research SOPs	Research team & RSG
	Operation of five rapid research vehicles to attend incidents of potential interest.	Secure funds to continue to support, and ideally to expand, the research fleet.	Head of Research Operations
<b>Upskill workforce</b>	Every new member of SCAS staff to be aware of research function.	Research presentation to be included in all corporate induction courses.	Research team & RSG
	Workshops and other CPD opportunities to be provided to SCAS staff.	New workshops/journal clubs to be developed and offered.	Research team & RSG
	Opportunities to be facilitated for development as Chief Investigators (CIs) and Principal Investigators (PIs)	Provision of formal learning opportunities for team members and others to develop knowledge and skills.  Opportunities for qualified individuals to take on Associate PI/ PI / CI roles where appropriate.	Research team and RSG

<b>Developing collaborations</b>	Work with regional research support networks to increase research offering to SCAS patients, service users and staff.	Work with the new network leads across portfolios to broaden our research offering.	Research team and RSG
	Respond to local need for research projects	Work with internal SCAS teams to identify, assess and deliver research projects	Research team and RSG
	Collaborate with national and international counterparts to develop further research opportunities for SCAS	Seek collaborative opportunities through national networks and beyond.	Research team and RSG
<b>Aligning research with practice</b>	Support the development and delivery of home-grown research projects.	We will support staff in designing and delivering projects of local importance.	Research team and RSG
	Ensure patient and public involvement in all stages of research	<p>Opening of CEDAR project to increase diversity and accessibility in research.</p> <p>All home-grown projects to have PPI engagement.</p> <p>Development of a PPI research forum.</p>	Research team and RSG
<b>Dissemination of research findings</b>	Ensure staff and governors have access to research findings	Our completed research projects will be promoted via SharePoint and on	Research team and RSG

		the trust internet page.	
	Promote SCAS research activity to the public	We aspire to fund some time for a Communications subject matter expert	Research team and RSG
<b>Sustainability</b>	Ensure financial sustainability	<p>Undertake financial forecasting where possible to facilitate future planning.</p> <p>Develop bids to national grant awarding bodies enabling us to complete home-grown research projects.</p> <p>Innovative use of our fleet to optimise our offering of research to our patients and public in our local community.</p>	<p>Head of Research Operations</p> <p>Research team and RSG</p> <p>Research team and RSG</p>

		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Studies	CRASH4												
	ELSA												
	SIS												
	SPEEDY												
	STALLED												
	POHCA-PHD												
	Non-HRA studies												
	SAFE-D												
	Mepebio/Tezebio												
Projects	UoS placements												

#### Key

- actively recruiting/engaged
- closedown/archiving
- data analysis/write-up
- possible extension

## Appendix A - Publications

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## Appendix B – Presentations

Pocock, H. A cluster randomised controlled feasibility trial of Prehospital Optimal Shock Energy for Defibrillation (POSED) [Poster presentation]. Cambridge, UK. 999 EMS Research Forum Annual Conference 2024.

Deakin, C.D., OHCA state of the art management. ECPR National Symposium. Royal Society of Medicine, London. September 2024.

Deakin, C.D., Defibrillation Strategies. Cardiac Arrest Symposium. Royal Geographical Society. London. December 2024.

Deakin, C.D., Mechanical adjuncts improve cardiac arrest outcome. Royal Geographical Society. London. December 2024.

Deakin, C.D., Pathophysiology of CPR and Novel Technologies. Resuscitation Masterclass. Wellcome Collection, London. March 2025.

Deakin, C.D., Defibrillation Update. Resuscitation Masterclass. Wellcome Collection, London. March 2025.

Deakin, C.D., Medical aspects of tasers in relation to cardiac arrest. MO19 Specialist Firearms Command. Metropolitan Police Service. April 2025.

Deakin, C.D., Medical Aspect of Tasers: Case Reports. MO19 Specialist Firearms Command. Metropolitan Police Service. April 2025.

## Appendix C - Participant enrolment into research projects (April 2024 - Mar 2025)

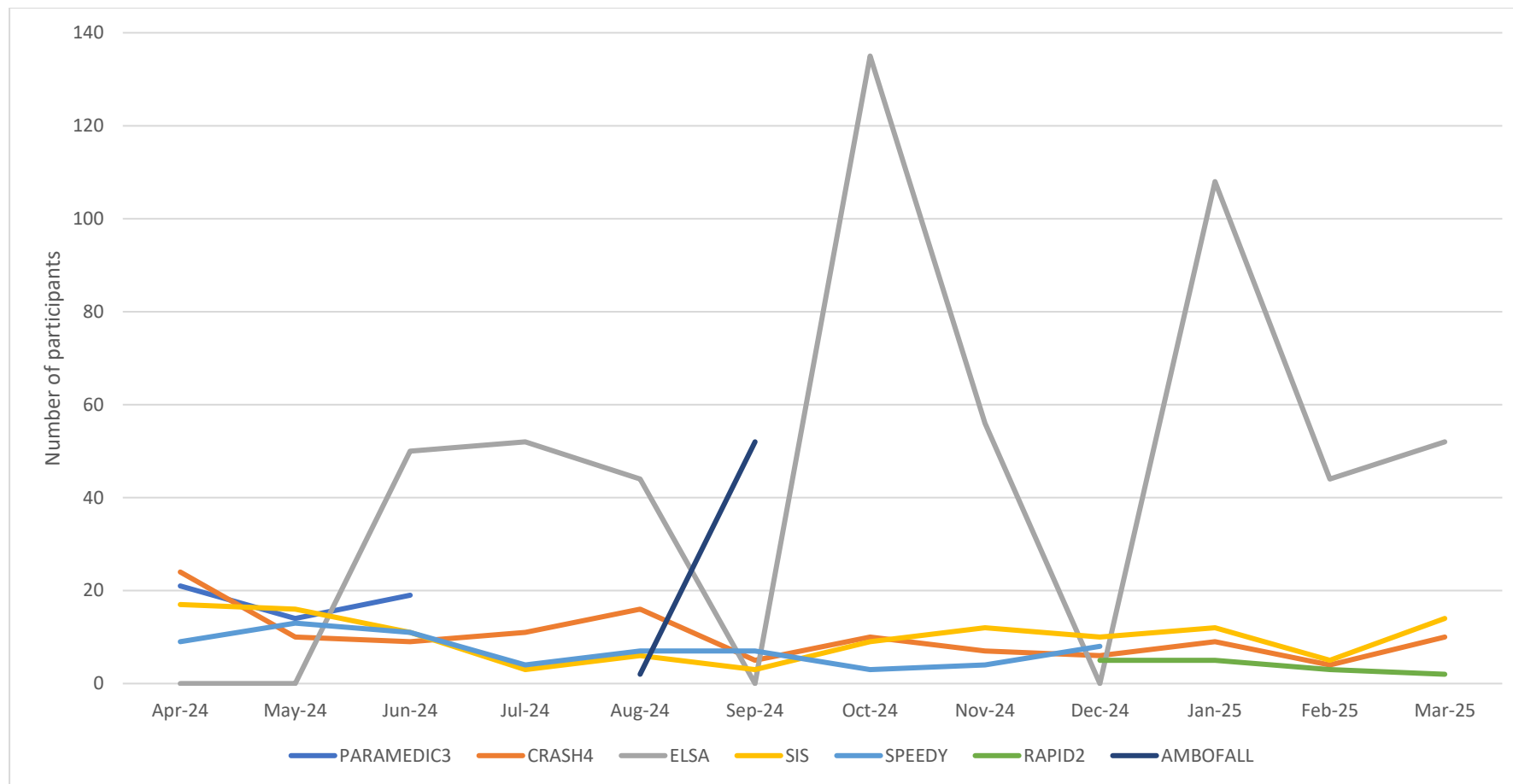


Figure A1: Number of participants enrolled into NIHR portfolio research projects during 2024-25