STUDY TITLE

Same day and Urgent care (SURGE) workforce research partnership

PROTOCOL VERSION NUMBER AND DATE

Version 1.0: 05/02/2025

RESEARCH REFERENCE NUMBERS

Sponsor: 11447514

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IRAS: TBA

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PROTOCOL VERSION CONTROL TABLE

Version number and date	Description of changes
V1.0 (05/02/2025)	Full original study protocol

SIGNATURE PAGE

The undersigned confirm that the following protocol has been agreed and accepted and that the Chief Investigators agree to conduct the study in compliance with the approved protocol and will adhere to the principles outlined in the Declaration of Helsinki, the Sponsor's SOPs, and other regulatory requirement.

We agree to ensure that the confidential information contained in this document will not be used for any other purpose other than the evaluation or conduct of the investigation without the prior written consent of the Sponsor

We also confirm that we will make the findings of the study publicly available through publication or other dissemination tools without any unnecessary delay and that an honest accurate and transparent account of the study will be given and that any discrepancies from the study as planned in this protocol will be explained.

For and on behalf of the Study Sponsor:

Signature: Date:
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Name (please print):

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Position:
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Chief Investigators:

Signature: Date:
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Name: (please print):

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Signature: Date:
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Name: (please print):

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ROLE OF STUDY SPONSOR AND FUNDER

The sponsor takes primary responsibility for ensuring that the design of the study meets appropriate standards and that arrangements are in place to ensure appropriate conduct and reporting. The sponsor will ensure that: all necessary approvals from an NHS research ethics committee are obtained before undertaking or permitting another party to undertake any part of the project which requires ethics committee and/or R&D approval; each participating site obtains properly signed ethically approved informed consent and acknowledgement forms from any participants or their legal guardians who will be involved in the project or who will be suppliers of material used in the project; each participating site shall conduct the project in accordance with the approved protocol and all relevant laws.

The funder reserves the right to have access to and to use data compiled during the course of the research and will respect existing guidance on confidentiality of any data which it obtains. The sponsor shall, at the request of the funder, deposit both qualitative and quantitative data in a relevant data archive subject to any reasonable delay necessary to enable the protection or exploitation of foreground IP.

ROLES AND RESPONSIBILITIES OF STUDY MANAGEMENT COMMITEES/GROUPS & INDIVIDUALS

Partnership Management Group

The study will be managed by a partnership management group (PMG), which will meet, in person or by teleconference, approximately monthly. The PMG will be chaired by the chief investigators and will include all co-applicants, collaborators and research staff.

Study Steering Committee

The Study Steering Committee will provide oversight for WPs1-4. They will meet approximately every 6 months or more often if required.

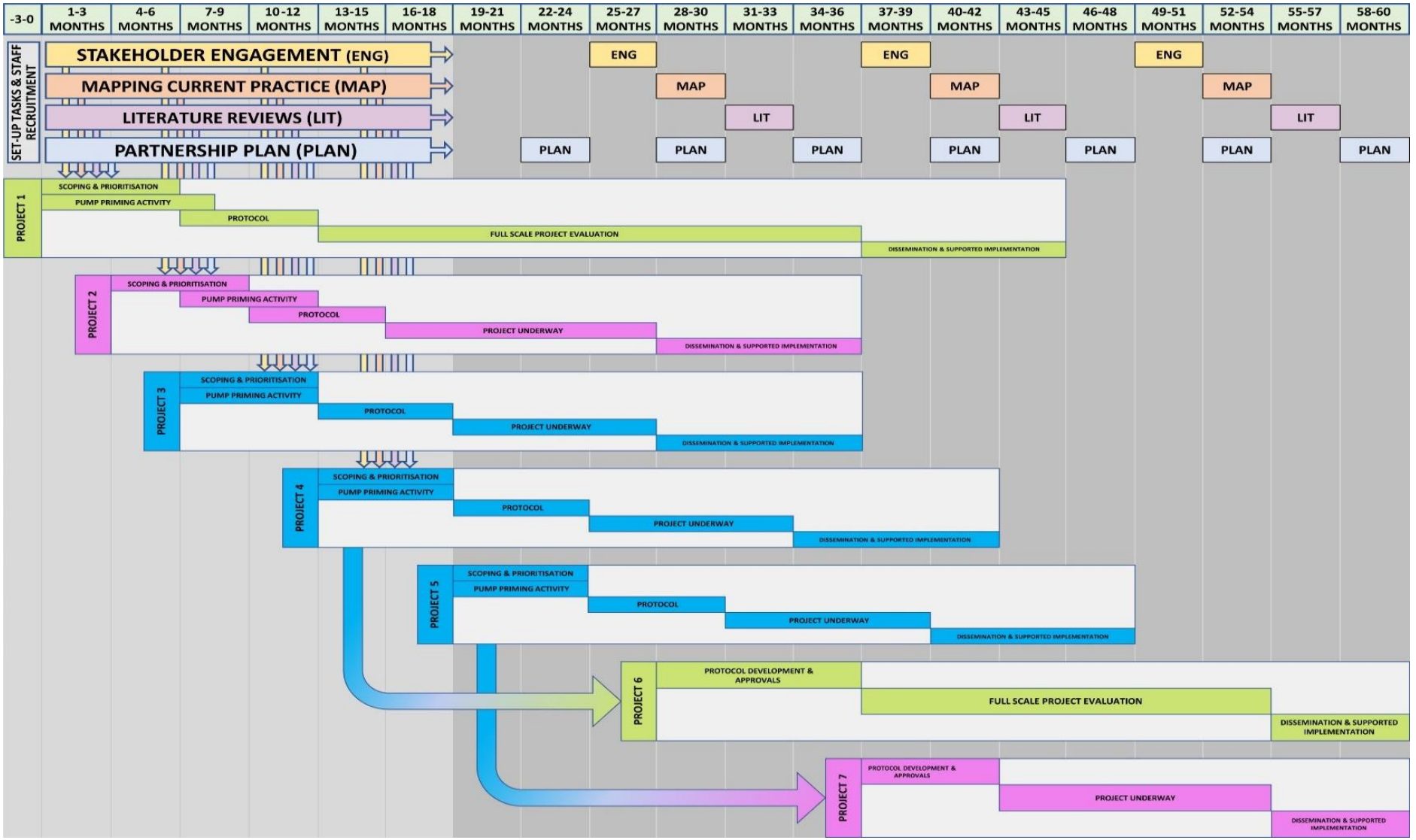
Partnership Strategic Advisory Panel

Individuals with key workforce expertise will form a Partnership Strategic Advisory Panel (PSAP). The purpose of the PSAP is to provide high-level insight, guidance, and expertise for the partnership. The PSAP is composed of individuals with diverse backgrounds, skills, and experiences relevant to research with the SURGE NHS workforce. The objectives of the PSAP include:

- Assisting the partnership with navigating complex challenges and making informed decisions based on potential risks and opportunities.
- Providing specific expertise and experience such as workforce knowledge, technical skill, or specialised insight.
- Leveraging networks and facilitating introductions to key players, potential partners, or other influential individuals regarding employer, education, union, professional society, public, and academic stakeholder groups.
- Advising on the development of long-term strategic plans and helping the partnership set clear goals and objectives for the duration.

- Supporting dissemination and knowledge mobilisation of research findings resulting from partnership activity.
- Supporting the partnership with wider dissemination and advising on knowledge mobilisation activities

STUDY FLOW CHART



STUDY PROTOCOL

Same day and urgent care (SURGE) workforce research partnership

1. BACKGROUND

We will address workforce challenges within same day and urgent care (SURGE) where recruitment, retention, and staff sickness are among the worse in the NHS, and patient demand highest (1). SURGE, including GP practices, same day walk-in care and ambulance services, often serve as the first access point to healthcare, making it highly vulnerable to excessive strain caused by unpredictable numbers; seasonal fluctuations; and patient flow limitations through the whole health and care system.

The 'Delivery plan for recovering urgent and emergency care services' (2), highlights that the SURGE workforce confront mounting pressures, and operate in time-critical situations that affect their mental and physical health, wellbeing, safety, and performance (3). This may also affect patient outcomes and safety (e.g., through medication errors (4). Consequently, SURGE staff are among the highest in the NHS for staff turnover, sick leave, and absenteeism (1,5). It is crucial to enhance staff wellbeing and offer opportunities for growth and flexibility to boost job satisfaction and to both retain existing staff and attract new employees.

The delivery of SURGE is intrinsically linked to issues of health inequality. In parts of the system where access is under pressure (e.g. obtaining a GP appointment, ambulance response or Emergency Department (ED) waiting times), those living in geographical areas of high deprivation and poor living conditions have the worst experiences and outcomes (e.g. mortality and morbidity) (6). Additionally, there is an inverse care law where staff recruitment and retention are worse in those areas where population need and complexity are greater, compounding the challenges and worsening inequalities (7).

Addressing SURGE workforce challenges will provide opportunities to combat systemic health and healthcare inequalities that lead to poorer outcomes for patients who experience high deprivation. Furthermore, the SURGE workforce itself is subject to structural inequality. Therefore, the interrelatedness of both patient and practitioner inequalities will be investigated within the partnership.

We will explore innovative, whole systems approaches to tackle workforce challenges that are endemic in the SURGE sector. New ideas have the potential to improve patient-flow and provide systems solutions to manage increased demand, resulting in high-quality and safer care alongside enhanced patient and staff experience. Aligned to the NHS Long-Term Workforce Plan (8) and equivalent documents for other devolved nations throughout (e.g. National Workforce Implementation Plan: Addressing NHS Wales Workforce Challenges (9) we will focus on how existing and future healthcare professionals are prepared for new practice locations (e.g. first contact roles) with an emerging remit (e.g. increased 'licensing' capabilities). We also recognise that changes in roles, skill mix, and ways of working are interwoven with professional boundaries, hierarchies and identities, which will inform our work. Importantly, this research will align with the NHS Equality, Diversity, and Inclusion (EDI) Plan (10), which targets the prejudice and discrimination that exists within the NHS, inherent in behaviours, policies, practices, and cultures across diverse groups within the workforce.

2. RATIONALE

NHS services in scope

There is an interdependence between ambulance services, urgent general practice, Emergency Departments, and other urgent care services, which include: Urgent Treatment Centres, Urgent Care Centres, Minor Injury Units, Primary Urgent Care Services, Co-located Primary Care Services, Mental Health Urgent Assessment Centres and Response Teams, and Primary Care Walk-in Centres. Although these services operate under several different titles, Urgent Treatment Centres (UTCs) will be used as the umbrella term, in line with the Delivery Plan for Recovering Urgent and Emergency Care Services (January 2023). The workforce delivering Urgent Community Response Services (UCRs) are also in scope for this partnership. UTCs and UCRs differ in that UTCs in the community are visited by the patient, whereas in UCRs, the service visits the patient in the community.

There is significant variation and complexity in the way that SURGE services are organised and delivered nationally, including their partnerships/integration with other organisations and services. The boundaries between the services are sometimes indistinct, can vary across regions (particularly between urban and rural or coastal communities), and there is significant potential for them to be dynamic over the span of the partnership. Furthermore, a proportion of the workforce within these services work across multiple areas, such as dual roles across primary and emergency care. Nonetheless, it is necessary to broadly conceptualise SURGE services and the workforce that delivers them to define the scope of the partnership. In defining the scope, we are not proposing to comprehensively address all these areas. Instead, we are setting wide and soft boundaries that are indicative of the areas we will include in the initial consultation and scoping work within the first 18 months (WPs 1-5). These boundaries, and the conceptualisation of service organisation within the system, are likely to be adjusted in response to the consultation process, and engagement with other funded partnerships through the Partnership Communities of Practice. However, we anticipate that the SURGE partnership will include research on workforce across four domains, which are broadly conceptualised based on the point of access for patients:

1. *Ambulance Services* (including 999 and 111 call centres, noting that approximately one third of 111 providers are ambulance services), with access through telephone consultation.
2. *Primary Care* (including multidisciplinary same day urgent care), with access through walk-in, telephone, or e-consult.
3. *Emergency Departments and Urgent Treatment Centres* (includes general practice out of hours), with 'walk in' access, or directed from 1 or 2 above.
4. *Urgent Community Response services* (includes initiatives such as Hospital@Home, Virtual Wards, Acute Respiratory Infection (ARI) Hubs, Acute Frailty Services and community-based mental health crisis services), with multiple access points.

As well as examining these domains individually, we will also examine them in the context of local systems of health and care support. Inclusion of all four domains in the partnership scope is important because workforce shortages and reduced productivity in one part of the SURGE system have a direct impact on other parts. For example, a lack of GP same day appointments will lead to spikes in demand for other urgent care services, and vice versa. Furthermore, there is considerable mobility of staff across these settings, for instance ambulance staff work in general practice and UTCs; general practice staff work in ambulance services, Emergency Departments and UTCs; UTCs and UCRs are delivered by a variety of healthcare professionals.

Of particular interest to our partnership is the SURGE non-medical workforce, the evolving roles within Nursing and Allied Health Professions, along with other personnel within the Additional Roles Reimbursement Scheme for general practice in England (11) and similar current and evolving schemes in the devolved nations. Whilst we will not exclude the medical profession, given the critical nature of their involvement and the interdisciplinarity of SURGE care delivery, we will prioritise non-medical workforce initiatives. This decision is based on the changing roles within SURGE delivery and the rapidly expanding non-medical workforce.

The team is well connected to national organisations and policy-making bodies and will proactively engage with consultations on the redesign and/or reorganisation of SURGE services, and in consultation with the Partnership Strategic Advisory Panel (PSAP), review the above scope every four to six months. Whilst we will retain our SURGE focus, we will also be responsive to PSAP guidance and stakeholder consultation processes.

Workforce groups in scope

We anticipate the following staff groups both at individual level, but also as part of multidisciplinary working, will be included within the four domains outlined above, and therefore be included in the partnership research:

1. Ambulance Services	Paramedics (including specialist paramedics and advanced paramedics)
	Emergency Medical Technicians and Ambulance Nurses
	Emergency Care Assistants
	Community First Responders
	Call handlers and emergency medical dispatchers
	Clinical advisors (e.g. GPs, ED consultants, Advanced Clinical Practitioners (ACPs), Mental Health Nurses)

2. Primary Care	Practice Nurses
	Advanced Clinical Practitioners (ACPs) (variety of clinical backgrounds including paramedics, advanced nurse practitioners, mental health practitioners, etc.)
	Clinical staff included within the Additional Roles Reimbursement Scheme (ARRS) providing first contact consultations (e.g. physician associates, physiotherapists, paramedics etc)
	Physician associates
	Nursing associates
	GPs

Within primary care, the main focus of this partnership is on SURGE provided within 'general practice' because at least two-thirds of all healthcare encounters still take place in general practice settings (12). However, we consider primary care (community-based pharmacy, dental, and optometry (eye health) services as part of the SURGE system and therefore this workforce could potentially be in scope for the partnership. Community pharmacists, for example, may deliver SURGE if employed at a GP practice, either directly or through a Primary Care Network in England or similar organisational structure in the devolved nations.

3. Emergency Departments and Urgent Treatment Centres	Services delivered by staff from themes 1 and 2
	Mental health staff working in mental health liaison and crisis services.
	ACPs, nurse practitioners and Allied Health Professionals based in ED
	ED nurses, nursing associates and healthcare assistants
	ED doctors (all grades)

4. Urgent Community Response Services	Services delivered by staff from themes 1, 2, and 3 and potentially additional social care staff (e.g. Social Care Assessors, Support Workers, etc.).

We recognise that there are challenges to be addressed due to the diversity of roles included. These staff groups differ in terms of where and how they provide patient care, their skills, their professional identities and culture. However, as a SURGE workforce they share a high burden of pressure that is associated with being the first contact for patients with an urgent health need, as well as unpredictability and variation in demand. This workforce is connected by the need to operate in time-critical situations whilst considering legal, ethical and safeguarding dilemmas, and dealing with resource constraints (e.g. a lack of staff, equipment, and facilities). Furthermore, equality challenges faced by the workforce in these areas are critical, for example, unpredictable hours alongside family and caring responsibilities. Consequently, all these staff groups are particularly susceptible to work-related stress, fatigue, and burnout (3).

The research conducted by the partnership will further explore these commonalities, but also between-group differences and within-group idiosyncrasies with a focus on EDI (10). In addition to addressing EDI in relation to ethnicity, we will proactively investigate other areas of diversity (e.g. workforce age). For example, the recently published 'Wellness in work' report (13) highlights evidence gaps for older workers, (peri)menopausal women, and those with neurodiversity. In NHS Wales, 76% of the workforce is female (91% in nursing and midwifery), with the percentage of staff aged 41-50 years decreasing from 28% in 2017 to 23% in 2022 (13). Given the age range of significant proportions of the NHS workforce, people living with menopause symptoms will be a key focus of the EDI work (note: we are including LGBTQI+ people within our EDI consultation to reflect sexuality and gender diversity within this group).

The initial focus of the partnership is on the clinical workforce delivering frontline care. However, staff working in SURGE support roles (e.g. managerial or administration) are also subject to pressure and vulnerable to stress, burnout, and sub-optimal health and well-being (14). Therefore, we will include these roles in scoping work for follow-on projects.

3. THEORETICAL FRAMEWORK

Our research is informed by conceptual frameworks of the quadruple aims of health care systems: improve population health; enhance the patient experience of care; reduce the per capita cost; and improve the work life of health care providers (15). Whilst we will adopt the most relevant methods for specific projects, our evaluation framework will be based on

overarching criteria of quality in health care as proposed by Donabedian (16), refined by others (17), and now the architecture for all health and social care quality assessments in the UK. These are criteria of acceptability, equity, clinical safety, efficiency, and cost-effectiveness, widely accepted that excellence cannot be achieved without seeing and acting upon healthcare as a system (18). This evaluative structure aligns with a comprehensive view of the healthcare workforce and the driving forces affecting workforce supply and demand. Acknowledging that workforce policies designed on needs-based estimates and focused on training more health workers are not singularly sufficient in addressing health worker shortages, or producing and retaining a health workforce equipped to deliver quality services (19).

4.2 Realist Concepts

We plan to address SURGE workforce issues using various methods, including mixed-methods approaches. The Realist Evaluation (RE) is of particular benefit in aiding our understanding of how and why different contextual factors impact outcomes (intended and unintended). Service-level stakeholders value these methods, appreciating the focus on context to help inform 'real-world' decision-making in a rapidly changing landscape.

RE is a theory-driven approach to understanding complex interventions in complex environments (20). It draws on both constructivist (theory building) and positivist (theory testing) paradigms to offer causal explanations about generative forces that underpin intended and unintended outcomes in a process termed 'retroduction' (21). RE seeks to understand what works, for whom, in what circumstances, how, and why. The approach is methodologically robust, systematic, and facilitates a clear understanding of the interactions between context and mechanisms that influence the outcomes of interventions (22). This clear understanding is represented in a 'programme theory' that can support recommendations for practice, and which is suitable for further testing. This approach is well suited to study the complex factors (i.e., causes and solutions) for optimising the same day and urgent care workforce. We will develop insightful, innovative programme theories for testing against empirical data to support recommendations for practice and workforce organisation. We anticipate RE will assist in explaining variation amongst key stakeholder groups, roles, and settings. We will address key components (e.g. types of tasks performed, or decisions made) that may work in various ways in different contexts (e.g. team composition or service socio-demographics) and result in outcomes that affect the SURGE workforce (e.g. psychological well-being, performance satisfaction, and intention to leave).

However, this will not be the exclusive methodology employed across the different research studies. The partnership team will determine the most relevant methods for each study on a case-by-case basis.

4.3 Theoretical frameworks

Our choice of theoretical frameworks will be based on expertise within the team, and a scoping review of middle range theories within the first 18 months of the Partnership. We will align the most appropriate theory to the project. We do however propose candidate theories below:

Implementation Science:

Consolidated Framework for Implementation Research (CFIR) (23): The CFIR is derived from 19 theories regarding dissemination, innovation, organisational change, implementation, knowledge translation, and research uptake. It provides a comprehensive theoretical basis for implementation research for health service delivery, addressing the need to assess and

maximise effectiveness of implementation within a specific context and to promote wider dissemination to other contexts. CFIR can inform the implementation of innovations through its five domains: intervention characteristics, outer setting, inner setting, characteristics of individuals, and process of implementation
Normalisation Process Theory (NPT) (24): NPT is a middle-range theory, that provides a framework to understand the factors that support and challenge implementation, embedding, and sustainability of an intervention or service change in practice. Aligned to four constructs: coherence (i.e., sense-making); cognitive participation (i.e., relational work); collective action (i.e., operational work); and reflexive monitoring (i.e., appraisal work), NPT provides a robust theoretical basis to understanding the human processes (i.e., what happens at patient and staff level) that are in play when new practices are introduced and embed over time.

Social Science: Sociological theories, potentially including theories of substitution and supplementation in reassignment of work from one group of professionals to another (25) and the potential for contest between professional groups (26) as well as on concepts of readiness for responsibility, empowerment to provide quality services, actualisation/professionalism and valuation/acceptance of consequences (27).

Systems Theory *(28)*: In line with our realist approach, systems thinking will be used understand the impact of efforts in one part of the system on other parts, given the indistinct boundaries around service delivery models and programmes (e.g. the impact of task shifting, redeployment and enhanced first point-of-contact initiatives in emergency services on the wider service delivery network). The role of realist methodology to understand underpinning mechanisms of new service innovations including for example, task shifting and redeployment is supported by systems thinking. Whereas systems thinking will widen the scope of inquiry to understand displacement risks and ripple effect benefits, realist methodology will deepen the understanding of how services work – the two approaches will complement each other.

4. AIMS AND OBJECTIVES

The aim of the SURGE partnership is to provide impactful, rapidly transferable evidence supporting employers to create a more effective, responsive and thriving SURGE workforce (29). We will provide insight and recommendations to transform SURGE services.

In the first 18 months of the partnership, we will identify key areas for exploration through consultation and intelligence gathering. Based on our work to date, through investigation of recently completed NIHR-funded studies, and alongside our ongoing consultation with the Health Foundation, likely areas include integration of staff into multidisciplinary teams for optimal efficiency; investigating acceptability, equity, safety, costs and consequences, as well as opportunities for, career development (e.g. clinical and extended leadership opportunities); and the impact these all have on job satisfaction, productivity, wellbeing, recruitment, and retention. We emphasise that throughout, these decisions will be made in consultation with key stakeholders, our PSAP, and in consultation with NIHR.

This protocol details the consultation activity during the first 18 months of the partnership. In addition, we plan to deliver seven research projects over the course of the partnership. These will be detailed within separate protocols.

The consultation phase (1-18 months) is divided into five Work Packages (WPs) described below.

5. DESIGN, METHODS AND ANALYSIS

5.1 WORK PACKAGE 1: Stakeholder Engagement

Aims:

To collect and develop priorities for research from the workforce. We will discuss contemporary issues within the SURGE workforce, including those already identified through partnership work and novel issues identified during consultation.

Methods:

Online research agenda-setting events: Three Online consultation events with key SURGE stakeholders. We will invite 30-50 UK-wide stakeholders from the SURGE workforce, commissioners, policy makers, patients and public. We will use multiple strategies to ensure we involve a diverse staff group with lived experiences, including but not limited to older workers, (peri)menopausal women (Cis and Trans), and staff with neurodiversity. Participants will be recruited via our extensive range of regional and national networks, building on staff networks we have already engaged and consulted with in preparation for the bid. We will work with our Professional and Public Advisory Group (PPAG) to design a process and environment that values reciprocity and equality for all workshop participants.

NHS site-based agenda setting workshops: To improve accessibility, and in response to suggestions arising from Community Inclusion and Engagement (CIE) activity already conducted with diverse workforce representatives, the online consultation events will be supplemented with 8-10 smaller face-to-face workshops, carried out at NHS sites (e.g. Bradford Teaching Hospitals NHS Foundation Trust). We will recruit staff (n=12-15 per workshop) through staff networks representing groups underserved by current research (e.g. Race Equality, LGBTQI+, Gender Equality, Multi-Faith, Disability, Working Carers, Menopause, Neurodiversity, Cancer support).

Analysis: Once initial ideas have been developed during the first online events and face to face workshops, information on identified topics will be collated from data generated by WP 2 and 3 (see below) to create briefing notes. These notes will be used to inform discussions at subsequent online events and workshops with the aim of prioritising topics for further research by the collaboration. The prioritisation process will use established methods to reach consensus. Stakeholders will prioritise questions for further investigation and determine the optimal level of research activity (e.g. main project; evidence synthesis; scoping project). We will also liaise with the other partnerships, through communities of practice, to determine opportunities for collaboration and to avoid duplication.

Outputs: Publications on workforce research priorities, including outputs that are tailored to minoritised groups facing specific workplace challenges.

5.2 WORK PACKAGE 2: Mapping current practice and data review

Aims:

We will complete a UK-wide multi-informant mapping exercise to identify and characterise relevant SURGE services, data sources and intervention models that are: (a) current; (b) within the scope of interest of our four domains, and; (c) not currently under investigation through the NIHR or other major research funders.

Methods:

Mapping current practice

We will base this WP on the seven-step approach to service mapping (30): defining services; identifying informants; designing survey and enquiry tools; collecting data; checking, analysing, and verifying; communicating findings; updating/refining the map. We will search publicly available sources for relevant information that will then be examined using document analysis (31) to gain an understanding of current practice and SURGE workforce models. The results of this will form the basis of a semi-structured interview schedule, co-designed with our PSAP and PPAG, that will be administered to an identified informant(s) in as many of the 42 Integrated Care Systems in England and equivalent organisations in the devolved nations as possible, and all 14 UK ambulance services. We will use our extensive regional and national networks in primary, urgent, and emergency care to engage informants and identify emerging services and workforce models not yet surfaced within the primary literature, and to gather exemplars of local-level staffing data (e.g. rosters) from a purposive sample of services/organisations reflective of our domains.

Data review

We will also access and examine relevant UK-wide workforce data sources, e.g. the NHS England workforce data hub; NHS Scotland Workforce Data; Wales National Workforce and Reporting System; Workforce statistics – Department of Health Northern Ireland; the NHS Digital Emergency Care Data Set; NHS England Urgent and Emergency Care Daily Situation Reports, and emergency and urgent care surveys administered by NHS England, the Care Quality Commission (CQC) and equivalent sources in the devolved administrations. Finally, we will use Casual Loop Diagrams (CLD) from the System Dynamics approach to understanding complex systems, exploring the structure and feedback loops that drive the dynamic behaviour of the key variables identified through the initial stages of this WP.

Analysis: We will use implementation methodology to classify the underpinning mechanisms and intended impacts of the identified services and workforce models at local, regional and national levels. We will run analyses on these workforce data sets to explore trends in numbers, skill mix ratios, stability indexes, sickness absence and the relationships between workforce and wellbeing. This will provide us with baseline data at the start of the partnership and allow us to confidently develop and test outcome measures and analysis plans for subsequent project work.

Outputs: (1) A UK-wide description and understanding of current SURGE service and workforce models, including new and emerging workforce initiatives and supporting quantitative data; (2) Descriptive accounts of available data and qualitative and quantitative analyses, and models of

relationships and trends that will inform ongoing project work; (3) Established outcome measures and data analysis plans that will be utilised in subsequent research projects.

5.3 WORK PACKAGE 3: Rapid/Scoping/Realist reviews

Aims:

Building on WP1 and in conjunction with WP2, we will undertake and publish evidence reviews (n=approximately 4) in areas that are likely to lead to further project work

Methods:

We will use suitable methods according to the topics and questions emerging, and in consultation with stakeholders (32). For example:

Rapid reviews: understanding methodological approaches used in the evidence base, understandings, gaps, and future research priorities in a domain; abbreviated appraisal; descriptive summary that may provide some guidance for time-sensitive interim decisions for policy and systems.

(Rapid) Realist reviews: applying a realist approach to knowledge synthesis to produce a 'programme theory' that can assist policy-makers in responding to time-sensitive or emerging issues, supporting (interim) recommendations for practice, and which are suitable for further testing, while preserving the core elements of realist methodology (see Section 4); these are appropriate for workforce research with much contextual variation and need to understand what works for whom, where, when and in which circumstances.

Scoping reviews: determining scope or coverage of a body of literature on a given topic, the volume of literature and studies available, and an overview (broad or detailed) of its focus and gaps; potentially as a precursor to a systematic review, omitting quality / methodological assessment at this stage; less intended to guide policy or practice in the interim.

Systematic reviews: synthesising and summarising research evidence in a reproducible manner. Meta-analysis and health economic analysis will be applied where appropriate to provide definitive evidence on effect and cost outcomes.

Reviews are likely to draw upon published and grey literature, and stakeholder contributions where methodologically appropriate. We will focus on issues identified in the stakeholder engagement (WP1) and practice mapping and data review (WP2) and collectively provide coverage across the four domains of the partnership research, addressing workforce needs and challenges. We will undertake a review on middle range theories early on in the workplan to inform the development of subsequent projects.

Analysis:

Review methods will determine the level of analysis. These will include narrative summaries; programme theory and context-mechanism-outcome configurations; and estimates of effect with or without health economic analysis.

Outputs:

Three published reviews designed to inform subsequent work. In addition, one scoping review will examine the relevance and applicability of a range of candidate middle-range theories that

can be applied most appropriately to our work on Implementation of innovations in the SURGE field.

5.4 WORK PACKAGE 4: Partnership Research Plan and Knowledge Mobilisation

On commencement of the partnership (months 1-3), we will create a Knowledge Mobilisation (KM) plan that will highlight opportunities for early information sharing and dissemination in support of SURGE service provision. For example, findings from reviews may help to shape service decision-makers. This early engagement with the sector will also raise the profile of the SURGE partnership and its work, creating further opportunities for engagement in the medium-longer term.

We will create an overall Partnership Research Plan describing our proposed projects from months 19-60, including project teams, timescales, and deliverables. In collaboration with the NIHR, each of the project teams, their Study Steering Committees (SSCs) and our PSAP and PPAG, we will co-create a 'living' plan from the outset of each project to ensure we consider KM opportunities and the pathway to impact throughout the whole lifetime of a project, rather than on completion alone. This will allow sharing of early findings to influence decision-making as they become available, in addition to final outputs. We will also respond to HSDR requests and ad-hoc opportunities as we identify them.

WP4 outputs will be a detailed partnership research plan and associated blueprints for knowledge mobilisation.

5.5 WORK PACKAGE 5: Plan for PROJECTS 1-7

Separate protocols to follow

6. ETHICAL AND REGULATORY CONSIDERATIONS

6.1 Assessment and management of risk

WP1 (Stakeholder engagement), WP2 (Mapping current practice and data review) and WP 3 (specifically, rapid realist reviews reviews): The study involves collecting data from participants through questionnaire, surveys, interviews and workshops. It is not anticipated that the data collection will pose any risks to the participants. However, if they feel they are in any way unable or unwilling to continue and would like their data to be excluded from the study, they are able to stop participation at any time without the need to offer an explanation. There are no research participants in WP4 (Partnership Research Plan).

6.2 Research Ethics Committee (REC) and other regulatory review

All appropriate ethics and governance requirements will be in place in advance of recruiting study sites or participants. All participants will be volunteers, will provide informed consent, and will have the right to withdraw at any time until their data is analysed.

In WP1 (Stakeholder engagement), WP2 (Mapping current practice and data review) and WP3 (specifically, rapid realist reviews reviews): All participants are NHS staff or members of the public and NHS research ethics committee approval will not be required. However, an application for HRA approval will be made and approval will be sought from the University of the

West of England Research Ethics Committee. We will not be collecting any data from patient participants; therefore NHS REC approval is not required.

There are no research participants in WP4 (Partnership Research Plan).

6.3 Amendments

If the sponsor wishes to make a substantial amendment to the REC application or the supporting documents, the sponsor will submit a valid notice of amendment to the REC for consideration. The REC will provide a response regarding the amendment within 35 days of receipt of the notice. It is the sponsor's responsibility to decide whether an amendment is substantial or non-substantial for the purposes of submission to the REC.

Amendments will also be notified to the national coordinating function of the UK country where the lead NHS R&D office is based and communicated to the participating organisations (R&D office and local research team) departments of participating sites to assess whether the amendment affects the NHS permission for that site. Note that some amendments that may be non-substantial for the purposes of REC still need to be notified to NHS R&D (e.g. a change to the funding arrangements).

7. STAKEHOLDER ENGAGEMENT

7.1 Community Inclusion and Engagement (CIE) and Patient and Professional Advisory Group (PPAG)

Co-applicants (ARCHIBONG and GIBSON) will co-lead on CIE for the partnership. CIE will encompass EDI (led by ARCHIBONG) and PPIE (led by GIBSON). During months 1-18, CIE will focus on EDI in relation to stakeholders participating in consultation activity. As the work progresses and project work commences, the CIE leads will work together to create an inclusive and diverse Patient and Professional Advisory Group (PPAG). For this project we will include members of the healthcare workforce in our PPAG, as they will be the primary beneficiaries of the research conducted. The group will also include patients as the organisational structure and culture of healthcare organisations has a direct impact on patient quality of care and health outcomes. The PPAG will meet on a four-monthly basis to provide oversight and input into proposed areas of investigation. They will assist in creating and reviewing the PPIE and EDI strategy and advise and monitor project-level PPIE throughout. Via the PPIE and EDI leads, we will also create a process whereby the PPAG can be consulted on an ad-hoc basis as challenges arise to ensure a PPIE perspective is provided on decision-making processes. They will also advise on (and engage with) dissemination strategies throughout. The group will also have representation on the PSAP.

7.2 Equity-centred engagement

Our partnership is committed to equity-centred engagement (33) in all consultation and co-design processes and will be led by experts with extensive experience in this approach. In the context of consultation, the equity-centred approach involves consulting in a manner that prioritises fairness and inclusivity related to all participants (public and professional). Key considerations for equity-centred engagement are:

Representation and Diversity: Ensure that groups are diverse and representative. In this context, this relates to protected characteristics (e.g. age, gender, ethnicity, sexuality) but also staff professions, grades, geographical locations, and types of employers along with other key stakeholder groups with relevant lived experience.

Cultural Sensitivity: Relating to personal characteristics (e.g. neurodiversity) but also recognising different professional cultures and sensitivities; acknowledging and respecting the values, beliefs, and perspectives of different groups; and ensuring the use of inclusive language throughout.

Power Dynamics: Recognising and addressing perceived power imbalances within our stakeholder consultation process. This includes recognising and mitigating against 'unequal' power relationships (e.g. perceived/actual professional hierarchies) as well as considering the impact of broader systemic power structures. In this context relating to patient/public and professionals; protected characteristics; researcher-researched dynamics; and healthcare professional hierarchies.

Intersectionality: Considering the intersectionality of different characteristics (e.g. profession, ethnicity), both professional and personal, to understand how these factors may interact to shape experiences and outcomes.

7.3 Co-design research collaboratives

We will follow the Generative Co-design Framework for Healthcare Innovation (GCFHI) (34), which provides a structured, creative and inclusive approach to co-design and co-production, supporting partnership working with end-users (e.g. professional bodies, service commissioners, professionals and patients) who are 'experts of their experiences'. It uses generative techniques; whereby relevant stakeholders explore the challenges in a process (e.g. patient consultation allocation in general practice) and create an alternative future that idealises how these may be addressed. Through their experiences, feelings, preferences and creative thinking, participants imagine ideal future processes that are then worked into pragmatic solutions. We will recruit project specific co-design collaboratives to design and plan projects taken forward for further investigation in months 18-60.

The GCFHI process consists of three major stages: predesign, co-design and post-design:
1. Pre-Design: This work falls within our first 18-month consultation phase along with scoping reviews, mapping, and data interrogation, resulting in prioritised projects for further investigation (see section 3.4.1). The focus of each project will allow us to recruit relevant stakeholders to work with the partnership leads and methodological and clinical experts to co-design the definitive projects for months 18-60.
2. Co-Design: Sub-groups of participants (e.g. specific healthcare professionals, administrative staff) will be encouraged to share experiences, highlighting current obstacles, and what needs to change to improve the current situation. Rather than simple group discussion, generative techniques may involve a variety of creative methods (e.g. scenario-testing, illustrations, and storytelling). Individual 'artefacts' are then shared in the whole group with similarities and differences discussed so that a shared vision is created, and feasibility issues addressed.
3. Post-Design: Ideas and materials created within the co-design process will be used by the research team to write a project specification which will be shared with participants to ensure it aligns with the agreed vision. Feedback will be addressed, and a final project protocol will be drafted accordingly. We will invite some co-design participants to remain on the project team(s)

and will also ensure all participants are informed of subsequent project progress and findings and will be invited to work with the team on related Knowledge Mobilisation activities.

8. EQUALITY, DIVERSITY AND INCLUSION

We aim to embed equality, diversity, and inclusion (EDI) across all aspects of the partnership and its research to enhance the sense of belonging for all staff to improve their experience. We will build an inclusive and diverse team culture where everyone is enabled to contribute safely and equally, fostering a sense of belonging that enhances our ways of working to fulfil our project mission.

We will identify, co-create, and deliver high-quality solutions that take cognisance of lived and learned experiences of our workforce to ensure patients and the public derive maximum benefit, including members of protected characteristic groups. We will be intentional and accountable in making EDI everyone's business. Underpinning the delivery of our project goals are our EDI principles (developed with members of minoritised staff, lay leaders, and stakeholders) which include, but are modifiable after further consultation: 1. Embedding EDI in our project team, approach, and focus and across all aspects of our development, operation, and delivery; 2. Learning together within a psychologically safe and stimulating culture and demonstrating a commitment to EDI in capacity-building; 3. Addressing instances of underrepresentation, differential needs, and systemic disadvantage; and 4. Developing a climate for Inclusion ensuring everyone's contribution is valued, recognising that our expertise comes from daily lived and learned experiences.

Our EDI strategy will align with our Patient and Public Involvement and Engagement (PPIE) strategy, highlighting the synergy between the two, and co-produced using PPIE principles. The EDI strategy will support the project by focusing on: 1. EDI within the research team makeup and culture; 2. EDI and the research process and; 3. EDI driven prioritisation of research topics and interventions.

Support for project activities will be available via the PPIE (GIBSON) and EDI (ARCHIBONG) leads who will provide patient and public engagement opportunities and guidance on conducting research that promotes EDI. We will take a multifaceted approach to developing the EDI guidance. Both the PPIE and EDI strategies will be monitored by key stakeholders including community leaders; members of the PPAG groups; PPIE and EDI co-leads; Partnership Manager; and the PSAP. The combined strategy will be approved and published on the project website in month six of the partnership.

9. TEAM ROLES AND RESPONSIBILITIES

9.1 Leadership

The anticipated partnership work will be extensive. It requires strong leadership, clear roles and responsibilities, unambiguous governance, and management and monitoring strategies. Within *the first 18-months*, leadership roles and responsibilities will be based on our approach to consultation. We anticipate inter work-package (WP) collaboration, including cross WP staff representation but with primary allocations below. We also anticipate that our methodological

experts (e.g. GAGE, ASGHAR, VASILAKIS) will input across all WPs as required, supporting protocol design and development.

All tasks will be supported by Research Fellow (RF) allocation, along with Partnership Manager and Administrator input. VOSS and WALSH will also contribute to WPs 1-3, ensuring partnership leadership representation across all WPs.

WP1 Stakeholder Engagement: ARCHIBONG and GIBSON (co-leads), supported by CLARK, SIRIWARDENA and WEST.
WP2 Mapping Current Practice BENGER and BOOKER (co-leads), supported by BLACK, MANLEY AND SIRIWARDENA and **Data Review** GAGE, ASGHAR, VASILAKIS (co-leads), supported by DRENNAN and HALTER
WP3 Literature Reviews: COOPER and EDWARDS (co-leads), supported by ARNOLD, DRENNAN, GAGE, HALTER, JAGOSH, and MOORE.
WP4 Partnership Research Plan and Knowledge Mobilisation Plan: VOSS and WALSH (co-leads).

9.2 Project management

Given the complexity of the collaboration, and the inclusion of several workstreams, effective project management is essential to ensure completion and dissemination within the proposed timeframe and budget. As such we propose the following management structure:

Chief Investigators (CIs): The Chief Investigators will share overall responsibility for project delivery, governance, and act as data custodians. They will line manage the Partnership Manager (PM), UWE located RFs and will form part of the supervisory team on the UWE PhD studentships (provided as a contribution in-kind by UWE). CIs will meet with WP co-leads every month (months 0-18) to discuss progress and provide support and intervention as required. CIs will also lead individual projects within the partnership and share responsibility for funder reports.

Partnership Manager (PM): The PM will have overall responsibility for monitoring: progress and budgets; collaborative agreements and contracts; governance approvals; and funder reports. The PPM will meet with the CIs every two weeks to discuss progress and highlight any issues arising from the work to ensure timely intervention. They will also meet with co-applicant partners every month during the first 18 months, to ensure milestones are being met; and with a representative from the host institution every month to review finances and ensure invoicing is up to date.

Partnership Administrator (PA): The PA will work alongside the PM and CIs providing administrative support throughout. They will be responsible for: arranging and minuting all partnership meetings; website editing; processing invoices; managing the partnership email account; contacting participants; and managing databases.

Research Fellows (RFs): RFs will be supervised and managed by the leads of the WP to which they are allocated. We will also form a RF Management Group chaired by the Partnership Manager. This will provide an important mechanism to ensure the work across the WPs at the day-to-day researcher level is complementary and iteratively developed. At a developmental level, it will provide opportunities for shared learning, peer support, and an avenue for RFs to discuss any logistical challenges they encounter with partnership working.

9.3. Responding to requests from HSDR

We will be able to respond swiftly if the HSDR Programme refers a topic from national bodies to the partnership. Our approach to this will be supported by:

a) **Surveillance**: During WPs 1-3, we will consult with stakeholders, map current practice and review data sets and search literature. We will have a contemporaneous overview of key and emerging priorities for workforce research and are likely to be already scoping work that aligns with any new HSDR topics for research.
b) **Flexibility**: During WP4, we will develop and consult on the Partnership Research Plan (PRP). This plan will be dynamic over the duration of the partnership and will be formally reviewed with the funder and Partnership Strategic Advisory Panel (PSAP) every six months. Should we receive a request from HSDR to address a topic that has been referred from a national body, we will initiate additional review meetings to assess priorities and timelines on project delivery so we can revise the PRP to incorporate additional work.
c) **Agility and efficiency**: We have carefully planned our approach to managing the large partnership and the ways in which research staff will be allocated across different WPs and projects (see section 6). This means we can rapidly and efficiently adjust staffing allocation, and/or the workload of research staff, to respond to requests according to project requirements.
d) **Staff development and capacity building**: The partnership will have a dedicated approach to staff development and capacity building. Where appropriate, HSDR directed projects will be supported by early career researchers or PhD studentships with supervision and support from the wider SURGE partnership.

9.4 Communities of practice

A total of five workforce research partnerships have been funded. The SURGE partnership will actively participate in communication and cross learning. Furthermore, we will initiate collaborative activity (such as building Special Interest Groups) around our specific expertise. For example, SURGE benefits from strong leadership in CIE and EDI as well as holding extensive expertise in urgent and emergency care research and realist evaluation methodology. We have specified areas where we envisage opportunities to work with communities of practice throughout this proposal. As a partnership cohort, we have discussed how the 'Community of Practice' (CoP) may work, with a suggestion that in addition to the regular 'catch-up' meetings, each partnership would also lead a theme within the CoP for cross-partnership research staff. Our SURGE partnership offered to lead on EDI/PPIE or early career researcher development; we have significant expertise in both areas as detailed in our Project Plan.

10. TIMETABLE

We provide a detailed Gantt chart for the first 18 months (Appendix 1).

11. DISSEMINATION, OUTPUTS AND ANTICIPATED IMPACT

Our approach to dissemination and impact will be guided by KM principles and led by WALSH. We will build on our existing networks and use social media to create a network of networks to support the KM process; this will also include the Partnership Community of Practice including other funded groups within this call. Critically, we will also engage with key stakeholders at the outset, who will we work with throughout to guide our KM and act as advocates for the projects

and ‘disseminators’ of evidence when available. We will also dovetail with the dissemination strategies of the Health and Care Research Wales Evidence Centre (co-applicant EDWARDS is Centre Director and co-applicant COOPER is Associate Director) to achieve greater coverage and rapid dissemination of findings.

We will develop a KM plan at the outset of each project using a logic model approach, producing outputs tailored for each audience and using knowledge cross transference as appropriate. To inform the breadth of our thinking and planning, we will also use the Research Impact Canada Knowledge Mobilisation Planning Template (35) in consultation with our project management groups, SSC, PPAG and PSAP to ensure an extensive, inclusive and co-created approach to KM.

We are cognisant of the different communication formats required by key stakeholder groups who are likely to be end-users of the information derived from our research and as such will tailor outputs to their information communication needs. These may include, but will not be limited to: Rapid insight reviews; Top line summary reports and infographics; Toolkits and data algorithms; Plain language summaries; Guidelines and recommendations

We will work with the Impact Accelerator Unit (IAU) situated within Bristol, North Somerset and South Gloucestershire Integrated Care Board (ICB). The role of the IAU is to first work with local service and policy makers to support implementation of best available evidence (now a mandated ICB function). The learning gained through local implementation is then shared with the ICB network through the ‘FutureNHS’ platform and the NHS Research Forum networking events to facilitate wider implementation. We also work closely with the West of England Health Innovation network to determine whether there are any findings that could be scaled-up through network support. Through our PSAP link with the Health Foundation, we will feed information into their reports that are submitted to the Department of Health to support decision-making. Through the Health and Care Research Wales Evidence Centre networks (with policy makers and NHS / social care executives etc.) we will map and support pathways to impact from our research in Wales. As above, key stakeholders from Scotland and Northern Ireland will be recruited to our PSAP, and we will use similar methods to mobilise knowledge in those countries mirroring the strategy and methods in Wales (36).

For all patient and public facing information, we will co-create materials with our PPAG to ensure information is accessible, acceptable, inclusive, and culturally relevant. In addition to traditional text-based materials, we may also include digital stories and animations, video presentations, and graphics. We will also ensure translated versions are available including BSL. Distribution pathways will be supported by our current and future networks but may also rely on more nuanced approaches through social media (e.g. X, TikTok, and Instagram); local community radio stations; vlogs and blogs for community health websites and charitable organisations. We will also work with community-based research ambassadors to support dissemination within local communities.

Academic outputs will include published peer-reviewed papers covering the reviews and individual project findings. We will target high-impact open access journals. We also plan conference presentations and/or workshops at the relevant workforce conferences nationally and internationally.

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Appendix 1: 18 month Gantt chart (V1.0 – 05/02/2025)

	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Apr-25	May-25	Jun-25	Jul-25	Aug-25	Sep-25	Oct-25	Nov-25	Dec-25	Jan-26	Feb-26	Mar-26	Apr-26	May-26	Jun-26	Jul-26	Aug-26
	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
SET-UP TASKS																						
Finances agreed																						
Contracting																						
Signed collaboration agreement																						
Establish ethics/governance requirements																						
STAFF RECRUITMENT																						→
Partnership Manager (SRF, 1.0 wte, UWE)																						
Partnership Administrator (RA, 1.0 wte, UWE)																						
Research Fellow 1 (1.0 wte UWE)																						
Research Fellow 2 (1.0 wte)																						
Research Fellow 3 (1.0 wte)																						
Research fellow 4 (1.0 wte)																						
Research Fellow 5 (1.0 wte)																						→
Research Fellow 6 (1.0 wte)																						→
PhD Studentship 1 (UWE)																						
PhD Studentship 2 (UWE)																						
PARTNERSHIP OVERSIGHT																						
Full team meeting																						Feedback event
Strategic Advisory Panel meeting																						
Community Inclusion & Engagement panel																						
Patient and Public Strategic Advisory meeting																						
PARTNERSHIP RESEARCH PLAN																						
Draft 1																						
Feedback on draft 1																						
Draft 2																						
Feedback on draft 2																						
Draft 3																						
Feedback on draft 3																						
Final Draft																						
Final partnership plan sign off																						
REPORTING DEADLINES																						
Interim WP1-3 report																						
Final WP1-3 report																						
Final Partnership Project Plan																						