

Research and Innovation Strategy 2014–2019

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1. Vision

- 1.1 To improve patient health through our excellence in world-class translational and applied health services research and our culture of innovation.

2. Mission

- 2.1 To undertake world-class translational and applied health services research and innovation in collaboration with our regional partners, that generates significant health gain and improvements in the delivery of our clinical services.

3. National Context

- 3.1 The way applied health services and translational research is funded in NHS trusts and universities in the UK have radically changed over the last eight years. The previous Government's research strategy, *Best Research for Best Health* (BRfBH), was launched in January 2006 with the goal of securing and encouraging the pursuit of clinical (defined as near-patient and near-service) research. The strategy explicitly identified health services research and clinical trials as priorities, since they offer the prospect of a more immediate impact on clinical care, and culminated in the establishment of The National Institute for Health Research (NIHR). In essence, *BRfBH* changed Department of Health funded research from being a supportive funding stream (which covered mainly the NHS costs of hosting externally funded non-commercial activity and provided for some 'own account' research), to a directed and commissioned research programme with an explicit emphasis on research excellence. These commissioned and response-mode research funding streams are co-ordinated and managed by the [NIHR Central Commissioning Facility \(CCF\)](#) and the [NIHR Evaluation, Trials and Studies Coordinating Centre \(NETSCC\)](#). The NIHR has also managed a series of infrastructure initiatives that include awarding a number of trust and university partnerships with additional funding for Biomedical Research Centres and Units and Collaborations for Leadership in Applied Health Research and Care (CLAHRCs).
- 3.2 As part of the changes to the way research funds are distributed by the NIHR, the previous Culyer block grant has ceased and trusts are now funded on the basis of the quality and volume of the research they actually undertake. To facilitate the transparent distribution of funds to underpin clinical research in NHS trusts, and to stop research funds being used to subsidise direct clinical service provision in a trust, the NIHR established over a hundred comprehensive and disease-specific research networks as part of the UK Clinical Research Network programme. These networks are currently being integrated into 15 Local Clinical Research Networks (LCRNs) that will provide comprehensive coverage of the whole of England.
- 3.3 In parallel, the government's *Innovation, Health and Wealth* report of 2011 issued three challenges to the NHS:
 - Improve the implementation of proven good practice and innovation

- Become better at generating research, enrolling patients and putting research into practice
 - Work more effectively with industry to benefit patients and the economy
- 3.4 To meet these challenges 15 Academic Health Science Networks (AHSNs) across England were established in 2013 with the aim of bringing together local NHS, universities and industry partners to accelerate the spread of innovative, evidence-based care to improve health and care quality.
- 3.5 All of the above changes in funding have encouraged and facilitated academics and NHS researchers to work closely together in larger multi-disciplinary teams. This integration and the focus on translational and applied health services research has attracted additional infrastructural and programme grant funding and has also highlighted the need to promote the clinical research skill base in professions other than medicine. A number of recent initiatives reflect efforts by funding bodies to ensure opportunities are provided to prepare both medical and non-medical professionals to undertake and lead research, often in previously under researched and neglected areas of significant NHS activity.

4. Local Context

- 4.1 The response by the Bristol healthcare research community over the last four years to the above changes in the national applied health services and biomedical research agenda has been transformational. University Hospitals Bristol (UH Bristol) worked with its partner universities and NHS trusts in the region to form a novel collaboration called the Bristol Research and Innovation Group for Health (BRIG-H); this has since developed into Bristol Health Partners (BHP) which was formally launched in May 2012. The aims of BHP are to generate significant health gain and improvements in service delivery by integrating, promoting and developing Bristol's strengths in health services, research, innovation and education. The way BHP is delivering these aims is to form Health Integration Teams (HITs). HITs include commissioners, public health and NHS specialists working with world-class applied health scientists and members of the public to develop NHS-relevant research programmes and drive service developments to improve health, well-being and healthcare delivery. Patient and public involvement (PPI) are essential to all aspects of HIT structure and function and that the methodologies used must include evaluation. Each HIT is sponsored by one of the partner organisations to ensure commitment to removing barriers and bottlenecks to change. There are currently 10 fully approved HITs and 7 more at various stages of the approval process. Additional HITs are in development.
- 4.2 The strengths of BHP and its HITs have directly led onto the recent award of an NIHR Collaboration for Leadership in Applied Health Research and Care for the West of England (CLAHRC_{west}) that is focused on research targeted at chronic diseases and public health interventions. The CLAHRC_{west} will substantially increase the scale and pace of research into practice and implementation of the novel applied health research findings that the HITs generate. This will in turn strengthen our strategic relationships

with a broader group of organisations covering a wider geographical area, providing an implementation and an applied research structure to further our collective aims.

- 4.3 The research and implementation themes of BHP and CLAHRC West dovetail with the stated aims and objectives of the West of England AHSN (WEAHSN) of the need for robust research to inform and accelerate the adoption and diffusion of evidence of best care. All three organisations are committed to active dialogue and reciprocal communication, seeing research and implementation as symbiotic. Research (through for example BHP and CLAHRC West HITs) is needed to establish robust evidence. Evidence will be used by the HITs and the WEAHSN, accompanied by evaluation to ensure that service/public health developments and changes bring the desired benefits to public health and patient outcomes - or to inform understandings about barriers and how interventions or methods of implementation can be improved. BHP, CLAHRC West and WEAHSN will work together to facilitate these developments, and encourage the development of more and broader HITs, host 'Implementation showcases', award implementation internships and fellowships, and initiate other similar events and developments. They have produced a joint strategy for PPI and are jointly supporting capacity building to increase research, evaluation and implementation literacy and skills in the NHS and academic workforce. There will be other joint functions, such as a common approach to showcasing work and engagement with stakeholders; a partnership approach to Health Education South West, workforce and continuing professional development and a joint approach to working with NHS England and strategic clinical and operational networks.
- 4.4 The above research and implementations workstreams will be facilitated and further strengthened by the new NIHR west of England clinical research network (CRN) hosted by UH Bristol. The CRN allocates funds to hospitals and surgeries to pay for research nurses, scans, x-rays and other costs associated with carrying out clinical research in the NHS. The network also provides a focus for collaborative working involving GPs, mental health practitioners and secondary care clinicians in research and service improvement for people with dementia, neurodegenerative diseases or mental health problems. In addition, the Network will help to increase the opportunities for patients to take part in clinical research, ensures that studies are carried out efficiently, and support the Government's Strategy for UK Life Sciences by improving the environment for commercial contract clinical research in the NHS.
- 4.5 Taken together, these and other collaborative and cross-organisational activities have contributed to a very significant increase in the number of successful NIHR infrastructure grants that include the award of Cardiovascular Disease and Nutrition, Diet and Lifestyle Biomedical Research Units, the Inflammation and Immunotherapeutics theme of the Moorfields and UCL Biomedical Research Centre, the renewed registration of the two UKCRC-registered Clinical Trials Units – the Bristol Randomised Trials Collaboration (BRTC) and the Clinical Trials and Evaluation Unit (CTEU) – and the Royal College of Surgeons-funded Bristol Surgical Trials Centre. Most recently, the award of the NIHR CLAHRC West and the successful bid to host the West of England Local CRN have further cemented the role played by UH Bristol as the regional specialist hospital that is recognised for the excellence of its clinical

services, the international standing of its research portfolio, the skills and dedication of its staff, and the quality of its teaching and learning.

- 4.6 Consistent with the very substantial increase in the breadth and depth of research undertaken at UH Bristol and across Bristol Health Partners, an extensive portfolio of research projects and trials have already resulted in findings and outcomes that been implemented into routine clinical care that is provided across the City. Examples (see appendix 1 for case histories) span neonatal care through paediatrics and into care for the elderly and encompass the vast majority of the clinical disciplines from orthopaedics, to cardiac to general surgery and ophthalmology, etc.
- 4.7 Whilst the above successes emphasise the advantages of a strategic approach in the way research and innovation at UH Bristol is undertaken, supported and monitored, we cannot afford to become complacent nor should we stop striving for even greater success and on a larger scale. The next call for NIHR Biomedical Research Centres and Units will be in 2016 and in the interim it is essential the Trust further builds capacity to allow it to submit optimised bids for these large infrastructure awards. Further, the current economic climate will inevitably lead to a constriction in the funds available for biomedical research funding and increase the competition for these diminishing resources.
- 4.8 An update to the UH Bristol research and innovation strategy is therefore timely and emphasises the importance of focusing on and fostering our priority areas of translational and applied health services research and innovation where we are, or have the potential to be world-leading (Aim 1). In parallel, we must train, mentor and support research-active staff to deliver high quality translational and applied health services research of direct patient benefit in our priority areas of research (Aim 2). These activities will develop a culture across UH Bristol in which research and innovation are embedded in routine clinical services leading to improvements in patient care (Aim 3). Lastly, we will work with our regional partners (principally BHP, the West of England AHSN, West of England CRN and CLAHRC West) to strategically and operationally align our research and clinical strengths and support the delivery aims of our Health Integration Teams (Aim 4). SWOT and PESTLE analyses to support this strategy are attached as appendices.

5. Aims and Objectives

Aim 1 – Focus on and foster our priority areas of high quality translational and applied health services research and innovation where we are, or have the potential to be, world-leading.

Objective 1.1 Identify strengths and work with our regional partners to build critical mass in world-class translational and applied health services research.

Objective 1.2 Provide protected time for research.

Objective 1.3 Provide skilled support for grant applications; navigation of regulatory and approval processes and delivery of studies, including where these span different organisations and sectors.

Aim 2 – Train, mentor and support research-active staff to deliver high quality translational and applied health services research of direct patient benefit in our priority areas of research.

Objective 2.1 Provide state-of-the-art clinical research facilities and infrastructure, and enable access to them.

Objective 2.2 Increase the participation in NIHR portfolio clinical studies.

Objective 2.3 Identify emerging talent and provide academic mentorship.

Objective 2.4 Promote and develop patient/public involvement for all clinical studies.

Aim 3 – Develop a culture in which research and innovation are embedded in routine clinical services leading to improvements in patient care.

Objective 3.1 Provide Divisions with appropriate financial resources to deliver research.

Objective 3.2 Increase Divisional understanding of the role of research and innovation in high quality clinical care.

Aim 4 – Work with our regional partners to strategically and operationally align our research and clinical strengths and support the delivery aims of our Health Integration Teams.

Objective 4.1 Generate critical mass by aiming for closer integration across the partnerships by aligning our research infrastructure and investment priorities.

Objective 4.2 Maximise external funding for research and innovation

Objective 4.3 Establish agreements with our regional partners to ensure efficient and seamless working, maximising research productivity and income, and removing bottlenecks and delays at project start-up.

Enablers of the aims and objectives are listed at **Appendix 1**.

NOTE: Once this strategy has been approved by the Trust Board then an implementation plan which will include actions against individuals/teams and time-lines for delivery, will be developed by R&I and approved by Trust Research Group.

Glossary

- 5.1 **West of England Academic Health Sciences Network (WEAHSN)** is a network of providers of NHS care across the West of England working with Universities, industry, NHS Commissioners and a wide range of partners (<http://www.weahsn.org.uk/>). The vision of the WEAHSN is to be a vibrant and diverse network of partners committed to equality and excellence. The WEAHSN will accelerate the spread of innovative, evidence-based practice to improve health and care quality. This will deliver economic benefits through increased regional investment, job creation, effective procurement and health improvement. Its strategic goals are to: (a) deliver measurable gains in health and well-being across the West of England, (b) make a meaningful contribution to the West of England and UK economies, and (c) build a learning and delivery Network to accelerate the adoption and spread of innovation and improvement.
- 5.2 **Bristol Health Partners (BHP)** is an innovative partnership (hosted by UH Bristol) launched in May 2012 (<http://www.bristolhealthpartners.nhs.uk/>) comprising University Hospitals Bristol, NBT, AWP and the Bristol, North Somerset and South Gloucester [BNSSG] PCTs/CCGs, working in partnership with the universities of Bristol and West of England and Bristol City Council, which now includes Public Health. The BHP partner organisations are currently working to maximise their joint research potential through its shared research strategy, joint enabling infrastructure and common goals and aspirations for translational and applied health services research. The aims of BHP are “to generate significant health gain and improvements in service delivery in Bristol by integrating, promoting and developing Bristol's strengths in health services, research, innovation and education”. The way BHP is delivering these aims is to form Health Integration Teams (HITs). HITs include commissioners, public health and NHS specialists working with world-class applied health scientists. With members of the public, HITs decide which aspects of health and healthcare need to be improved, and then carry out the research to show the changes that could make most difference to people's health and well-being.
- 5.3 **CLAHRC West** (hosted by UH Bristol) builds directly on the strong track record of collaborative working between the Universities, NHS organisations, providers of NHS services, local authorities, local commissioners, the life science industry, other NIHR-funded infrastructure, AHSNs and patients and the public. These groups have collectively formed BHP and its HITs, and the CLAHRC West will substantially increase the scale and pace of research into practice and implementation of the novel applied health research findings that the HITs generate.
- 5.4 **West of England LCRN** (hosted by UH Bristol) is one of 15 Local CRNs that, starting on 1 April 2014, have been awarded five year contracts from the Department of Health, to act as the NIHR Clinical Research Network's (CRN) local branches. Operating across England through a national co-ordinating centre and local branches, LCRNs provide funding to hospitals and surgeries to pay for research nurses, scans, x-rays and other costs associated with carrying out clinical research in the NHS. The Network helps to increase the opportunities for patients to take part in clinical research, ensures that studies are carried out efficiently, and supports the Government's Strategy for UK Life Sciences by improving the environment for

commercial contract clinical research in the NHS. The LCRNs will take responsibility for performing the remit of the NIHR CRN at local level and, collectively, will distribute £280 million of NIHR/year, to support the delivery of clinical research studies in their area.

- 5.5 **Regional Partners** includes but is not limited to the member organisations of BHP, BHP, West of England AHSN, CRN and CLAHRC West. In time, a wider partnership across the west will be formally established, ensuring even closer collaborative working across BHP, CLAHRC West, LCRN and the WEAHSN.
- 5.6 **Research Capability Funding (RCF, previously known as Flexibility and Sustainability Funding, FSF)** is a quality-driven funding stream allocated annually by the NIHR to all research-active NHS trusts that allows for local discretion and management of people to support and develop patient and people driven research. It is allocated in proportion to the total amount of other NIHR income received by that organisation, and on the number of NIHR Senior Investigators associated with the organisation.
(http://www.nihr.ac.uk/infrastructure/Pages/research_capability_funding.aspx).
- 5.7 **Innovation** relates to “The adoption of new-to-the-organisation or new-to-the-NHS technology products and/or service delivery processes, comprising step- or incremental-change, and resulting in a significant improvement in patient outcomes, experiences, safety and potentially cost-effectiveness”. An implication of this definition is that the benefits of the introduction of the technology/service delivery processes are proven (National Innovation Centre 2008).
- 5.8 **Translational and Applied Health Services Research** leads to benefits in the care provided for patients and encompasses a range of activities that include research going: (a) from bench to bedside, where theories emerging from pre-clinical experimentation are tested on patients – first in small-scale studies and then through formal research evaluations in large numbers of patients, covering acceptability, clinical effectiveness and cost-effectiveness, and (b) from clinical efficacy to health improvements, whereby a better understanding and then evaluation of health services results in an improvement in outcomes.

Trust Research Staff or “Researchers” are used throughout this document to encompass all clinical researchers and includes the following professional groups: Medical, Nursing, Midwifery, AHPs, Clinical Scientists and Pharmacists.

Appendix 1: Aims, objectives and enablers

Aims and Objectives

Aim 1 – Focus on and foster our priority areas of high quality translational and applied health services research and innovation where we are, or have the potential to be, world-leading.

Objective 1.1 Identify strengths and work with our regional partners to build critical mass in world-class translational and applied health services research.

- *Ensure each research area at UH Bristol has a coherent strategy to deliver world-class translational and applied health services research.*
- *Align our research themes with the priority areas of our regional partners.*
- *Annual review of all research and researchers at UH Bristol to comprehensively identify levels and areas of current research activity and infrastructure.*
- *Identify impacts of translational and applied health services research at UH Bristol on patient care.*
- *Ensure all research funds and resources allocated by the Trust are in priority research areas.*

Objective 1.2 Provide protected time for research.

- *Implement internal funding calls available to all Trust staff, for small grants and dedicated research time using DH-allocated Research Capability Funding and other available funds (e.g. local charities) in order to generate the evidence for new research proposals.*
- *Use available funds to release time for Trust staff to work on translational and applied health services grant applications.*
- *Provide appropriate facilitation and performance management of individuals who receive pump priming and small grant funds.*
- *Increase the numbers of new Trust appointments with dedicated research time.*
- *Support Divisions to allocate dedicated research time to individuals who are consistently performing research at a high level¹ and/or provide pump-priming support to those staff who have the potential to achieve that level of activity.*

Objective 1.3 Provide skilled support for grant applications; navigation of regulatory and approval processes and delivery of studies.

- *Appoint staff to facilitate and performance-manage Trust staff who receive funding to ensure timely submission of the highest-quality grant applications.*
- *Ensure a culture of sharing information and intelligence (e.g. master-classes, workshops, one-to-one mentoring and grant reviews) between applicants and previously successful researchers.*
- *Provide access to complex methodological support for writing grant applications and research protocols e.g. Research Design Service, Specialist Methodological*

¹ This creates a reward and incentive to generate more income from patient recruitment into non-commercial portfolio studies and/or fully funded commercial studies.

- and Analytic Research and Training unit, and methodologists in the CLAHRC and the various trials units.*
- *Provide skilled support to assist researchers to:*
 - *Identify all resources required to deliver research. For example: all direct research costs, support costs, excess treatment costs, appropriate access to support departments, staff, and sites.*
 - *Help secure all necessary research approvals and ensure compliance with relevant regulations and statutory instruments.*
 - *Ensure robust governance of research: audit compliance with all patient safety aspects of research; monitor trial conduct and ensure compliance with all regulatory/statutory requirements.*

Aim 2 – Train, mentor and support research-active staff to deliver high quality translational and applied health services research of direct patient benefit in our priority areas of research.

Objective 2.1 Provide state-of-the-art clinical research facilities and infrastructure, and enable access to them

- *Where appropriate, ensure research facilities and units are embedded in clinical divisions/departments thus ensuring maximal integration of research with clinical services.*
- *Work with regional partners to develop shared research facilities and infrastructure such as the Clinical Research and Imaging Centre (CRICBristol) and consider the establishment of an early stage trials unit to facilitate translational phase I and IIa proof-of-concept clinical studies.*
- *Work with regional partners to ensure sufficient methodological input to developing, submitting, running and disseminating clinical research.*

Objective 2.2 Increase the participation in NIHR portfolio clinical studies.

- *Identify relevant staff to participate in NIHR portfolio studies.*
- *Regularly flag new appropriate portfolio studies to all relevant staff.*
- *Ensure that recruitment of patients into appropriate NIHR portfolio studies forms part of the core job descriptions for all research active staff.*
- *Provide research training appropriate to the level of research activity.*
- *Develop trust-wide structures for the optimal delivery of clinical studies. This will include: divisional research units, and trained and appropriately managed research workforce.*
- *Divisions to provide protected research time and/or funding for research nurses, clinical trial coordinators and administrators where appropriate, to maximise patient recruitment.*
- *Ensure commercial partnerships are proactively identified, encouraged and flagged to appropriate research active staff. Market UH Bristol staff and facilities to commercial partners.*
- *Ensure commercial studies that are undertaken fit the research priorities and strengths within UH Bristol and contribute funds to increase capacity for further research.*

Objective 2.3 Identify emerging talent and provide academic mentorship.

- *Regular meetings and workshops to attract and identify potentially research-active staff and trainees.*
- *Flag research as a priority in all new staff induction programmes.*
- *Mentor potentially research-active staff via local and/or national support systems.*
- *Ensure funds to encourage and support research training.*
- *Ensure funds for pump-priming funds to allocate dedicated research time and generate preliminary data.*

Objective 2.4 Promote and develop patient/public involvement for all clinical studies.

- *Ensure that the trust-approved PPI strategy dovetails and integrates with the PPI strategies and activities of our regional partners.*
- *Work with our regional partners to maximise available resources to support research PPI through existing Trust and regional partner information systems.*
- *Coordinate access to existing support across the region for researchers and monitor use and usefulness of these.*
- *Work with existing PPI leads (Trust and regional partners) to develop sustainable support infrastructure for PPI – cost reimbursement, training, access.*
- *Ensure researchers engage PPI at earliest stages of research study development through education and monitoring.*

Aim 3 – Develop a culture in which research and innovation are embedded in routine clinical services leading to improvements in patient care.

Objective 3.1 Provide Divisions with appropriate financial resources to deliver research.

- *Make explicit and transparent the allocation of research funding to each Division, based on activity and strategic priorities.*
- *R&I to work with Divisions to ensure appropriate spend of research monies.*
- *Ensure transparent revenue allocation of income from commercial studies and intellectual property exploitation.*
- *Develop best practice in costing all elements of research, including treatment costs.*
- *Work with Divisions to recoup appropriate treatment costs from commissioners for research studies.*

Objective 3.2 Increase Divisional understanding of the role of research and innovation in high quality clinical care.

- *Divisional research leads to sit on Divisional boards and Trust Research Group and act as conduits to ensure regular two-way information flow.*
- *Ensure regular and accurate reporting of all Divisional research activity.*
- *Develop KPIs with each Division to allow for appropriate performance management of research*
- *Identify appropriate Divisional reporting structures for research.*
- *Research units to be established and funded within each Division to provide a physical base for research staff and clinical space to conduct studies.*
- *Best practice to be shared between divisional research units*
- *Increase patient recruitment to appropriate NIHR portfolio studies.*

- *Identify and protect intellectual property within the Divisions.*
- *Written policy on revenue sharing to ensure any commercial income appropriately accrues to the researcher and the Trust.*

Aim 4 – Work with our regional partners to strategically and operationally align our research and clinical strengths and support the delivery aims of our Health Integration Teams.

Objective 4.1 Generate critical mass by aiming for closer integration across the partnerships by aligning our research infrastructure and investment priorities.

- *Provide all staff with knowledge and information about the advantages of collaborative working with our regional partners to maximise our research and clinical service strengths.*
- *Align the priority research themes at UH Bristol with those of our regional partners.*
- *Align research prioritisation with the clinical service rationalisation and ensure these activities complement and inform each other.*
- *Work with regional partners to develop shared research facilities and infrastructure.*
- *Encourage the work of our existing HITs and the development of more and broader HITs.*
- *Ensure robust research generated by HITs and regional partners informs and accelerates the implementation, adoption and diffusion of evidence of best care.*
- *Actively work with our regional partners to foster the embedding and implementation of research and research evidence into clinical care across the West of England AHSN.*
- *Attract the very best clinicians and researchers, maximising the dissemination of knowledge among staff and students, leading to better clinical delivery and health outcomes.*

Objective 4.2 Maximise external funding for research and innovation.

- *Joint horizon scanning for funding opportunities and disseminate resulting information across our regional partners.*
- *Full engagement with our regional partners for larger strategic applications.*
- *Ensure large strategic grant application involving our regional partners is assessed and modelled for impact on Trust RCF and HEI QR funding.*
- *Increase the revenue from commercialisation and innovation by better and more effective collaborative working with our regional partners.*

Objective 4.3 Establish agreements with our regional partners to ensure efficient and seamless working, maximising research productivity and income, and removing bottlenecks and delays at project start-up.

- *Work with all the organisations that collaborate under the Partnership to ensure transparency in financial costings.*
- *Put in place over-arching contract and sub-contract framework agreements.*
- *Provide agreed mechanisms for efficient intellectual property management and exploitation.*

- *Ensure where appropriate that research governance is seamlessly delivered across the partnership in an integrated and efficient manner.*

Appendix 2: Impact of Research on Clinical practice - Case Histories

Why do we do research in the NHS?

Research helps the NHS and UH Bristol to meet their primary objective, to improve patient care. The research we undertake helps to answer important questions about which methods of diagnosis and treatments have the most beneficial outcomes for patients, in terms of curing, controlling or preventing disease. Patient involvement in clinical research is vital, and public involvement is much needed and greatly appreciated. New and better treatments for many diseases would not have been possible without research, and the participation of patients and their families. Research is the only way we can continue to improve prevention and treatment of diseases and patient care.

Examples of how research has made a difference are on our website:

<http://www.uhbristol.nhs.uk/research-innovation/our-research/case-studies/impact-of-our-research/>

Appendix 3: R&I SWOT analysis

Research and Innovation SWOT Analysis for UH Bristol	
Strengths	Weaknesses
<ul style="list-style-type: none"> Active and increasing collaborative working with our regional partners to continue to build research excellence in the following areas: <ul style="list-style-type: none"> Population health Cardiovascular biology and cardiac surgery Nutrition and metabolism Health of children and young people Ophthalmology Talented and committed research workforce Position as the leading research-intensive teaching hospital Trust in the South West Improving focus and achievement on all priority research performance measures Hosting large infrastructure projects e.g. CLAHRC, BRUs, BHP, LCRN 	<ul style="list-style-type: none"> Under-exploited research potential in some areas of clinical services e.g. cancer Still some lack of transparency in the detailed costs of our research Poor quality of some parts of our estate which impacts on both service and research efficiency
Opportunities	Threats
<ul style="list-style-type: none"> Increase in research funding into the Trust if our research performance increases Align our research strengths with our regional partners. This will generate a step-change increase in research funding to the Trust and our reputational locally, nationally and internationally Align the research prioritisation with the clinical service rationalisation and ensure these activities complement and inform each other, leading to improved patient care and outcomes Research using routine data (e.g. patient data linkage especially from primary care) 	<ul style="list-style-type: none"> Financial constraints in research funding leading to reduced activity and income, with associated loss of research active staff and consequent impact on clinical performance Continuation of the current duplication in some clinical services across Bristol leading to a lack of critical mass in research and researchers Insufficient release of clinical time to allow our research active staff to maximise their research potential and thus the income to the Trust Increase in number of complex and high intensity trials in tertiary care with no associated increase in research support income Transfer of clinical services in and out of the trust requires agile allocation of research resources to meet the changing opportunities Increased demand for methodological input into research, leading to mismatch between supply and demand

Appendix 4: R&I Strategy PESTLE analysis

Research and Innovation PESTLE Analysis	
Political/Policy Drivers	Economic
<ul style="list-style-type: none"> • Best Research for Best Health (2006, previous Government Health Research Strategy) • NHS Operating Framework – commitment to double the number of patients recruited into trials within five years • Patient choice, competition and plurality • Care closer to home, less reliance on hospital based care • Expectation that outcomes improve and become amongst the best in Europe 	<ul style="list-style-type: none"> • Global economic downturn and period of significant UK austerity • Uncertainty of funding models for delivery of trials • Change from activity based model to proportion of fixed funding model for research activity • Change from block allocation of research support funding to competitive grant funding and activity/quality driven allocations for NHS support costs • Reduced funding to NHS and other public sector bodies with whom we work closely (particularly the Higher Education Sector) • NHS Tariff uncertainty and historic volatility impact on treatment costs for research
Social	Technological
<ul style="list-style-type: none"> • Growing patient expectation of both the quality and experience of care and expectations of participation in research • Developing litigation culture • A more health literate public driving both demands and concerns about healthcare and research • Ageing population and consequent demands upon healthcare providers • Significantly changing local demographic notably in context of ethnicity profile • Diverse deprivation profile and resulting impacts on health of local population 	<ul style="list-style-type: none"> • Advancements in technology leading to new practice and improved life expectancy • Pharmaceutical progress and reliance upon NHS for adoption and spread • IM&T System development and requirements • Linkage of data from a variety of routine sources (e.g. HES, primary care, etc).
Legal	Environmental
<ul style="list-style-type: none"> • Legal framework for regulation of clinical trials of investigational medicinal products – creates a large burden and slows the productivity of research • Very significant increase in litigation claims across NHS • Applying for use of anonymised, linked routine datasets 	<ul style="list-style-type: none"> • Areas of inadequate estate and links to disability access / privacy & dignity • Restricted access to parking • Requirement and aspiration to reduce carbon footprint of estate and services