

Birmingham Health Partners

Report of Activity 2020 - 2022

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Glossary

ABHI	Association of the British HealthTech Industries
ABPI	Association of the British Pharmaceutical Industry
ATTC	Advanced Therapy Treatment Centre
ВНР	Birmingham Health Partners
BSoL ICS	Birmingham and Solihull Integrated Care Service
BWC	Birmingham Women's and Children's NHS Foundation Trust
СВІ	Confederation of British Industry
CPD	Continuing professional development
CRF	Clinical Research Facility
СТІМР	Clinical Trial of an Investigational Medicinal Product
HDR UK	Health Data Research UK
HEIs	Higher Education Institutions
HSMC	Health Services Management Centre, University of Birmingham
ITM	Institute of Translational Medicine
MDS	College of Medical and Dental Sciences, University of Birmingham
MPMS	Metchley Park Medical Society
MW-ATTC	Midlands-Wales Advanced Therapy Treatment Centre
NIHR	National Institute for Health and Care Research
NIHR Birmingham BRC	NIHR Birmingham Biomedical Research Centre
NIHR CRF	NIHR Clinical Research Facility
OLS	Office for Life Sciences
PVC	Pro-Vice-Chancellor
RD&I	Research, development and innovation
ROH	The Royal Orthopaedic Hospital NHS Foundation Trust
SWBH	Sandwell and West Birmingham Hospitals NHS Trust
UCL	University College London
UHB	University Hospitals Birmingham NHS Foundation Trust
UKRI	UK Research & Innovation
UKRI QR Funding	UKRI Quality-related Research funding
UoB	University of Birmingham
Wellcome ISSF	Wellcome Institutional Strategic Support Fund
WMAHSN	West Midlands Academic Health Sciences Network

Introduction

Our Board is delighted to publish this report summarising the work of Birmingham Health Partners covering the period from September 2020 to August 2022. In publishing this report for our member institutions, stakeholders and influencers in the West Midlands and further afield, we want to highlight the progress made by BHP in aligning the strategic objectives of our NHS and university partners to address major health challenges faced by our region and beyond. This report sets out who we are, what we do and what we have achieved over the period with a look forward to the coming years.

By integrating shared capabilities unselfishly and collaboratively, BHP is forming a powerful regional cluster to address health inequalities

Our starting point has been to create a values-based partnership with key organisations in the city-region that allows us to deploy our research, innovation and healthcare capabilities to deal with major health issues. The problems encountered by the large socially- and ethnically-diverse population of the Birmingham region are similar to those faced nationally and globally, with health inequalities – driven by social determinants – leading to multimorbidity and chronic physical and mental ill-health. To address such deep-seated problems, it is increasingly recognised that we need health science clusters, based in large regional populations, that harness research and innovation to patient care. By integrating

shared capabilities unselfishly and collaboratively, BHP is forming a powerful regional cluster to address health inequalities while also driving economic development – thereby contributing to both UK and global knowledge-based outcomes.

During last 12 months, we have expanded our membership from the original partners of the University of Birmingham (UoB), University Hospitals Birmingham (UHB), Birmingham Women's and Children's Hospitals (BWC) and the West Midlands Academic Health Sciences Network (WMAHSN) to include two further NHS trusts – Sandwell and West Birmingham Hospitals (SWBH) and the Royal Orthopaedic Hospital (ROH). This means that we now encompass acute and elective trusts covering a population of 2.5m. We intend to expand further in the coming years, allowing us to be even more inclusive and engaged with the West Midlands health ecosystem. In recognition of the expanded collaborative membership, we have embarked on a review of our governance to ensure it continues to be effective, inclusive and accountable for the resources and delivery within our remit which is set out in the report.

We hope that readers of this report will understand both the role played by BHP and the opportunities the partnership provides to support health innovation in our region. We aim to enhance the endeavours of individuals, teams and organisations by focussing on collaborating across institutional boundaries. As this report sets out, we have made substantial contributions over the last year including on training, funding, and health data and digital delivery. We are also proud of our convening role which brings together wide-ranging multidisciplinary expertise to deliver research that matters for our population and which promotes a wider innovation landscape.

The Board is grateful to all of the participants in the BHP collaboration and to the Executive group, the External Advisory Board and our core team for what has been achieved over the two years. Our expectation is for more in the years ahead – with a focus on impact, outcomes and accountability.



Ed Smith BHP Chai



Prof David Adams
BHP Director

The purpose of Birmingham Health Partners



A research and innovation cluster with a clearly articulated purpose:

Born well, live well, die well.

Who are we

We are a group of organisations that share the common goal of seeking to achieve health and economic impact for our communities. We do so through the knowledge and expertise of our people and the communities that we serve.













What do we do

- We are major employers, educators and skills providers.
- We make use of our shared capabilities in research and innovation to deliver impacts on the health, wealth and wellbeing of our region, our nation and our world.
- We adopt the principles of system leadership to unlock opportunities and address the complex challenges faced in our region, our nation and the world.



Addressing complex challenges through systems change

The 2030 Sustainable Development Agenda includes 17 inter-related Sustainable Development Goals (SDGs), each representing complex systems - such as climate, food, health, cities - with myriad stakeholders. Achieving progress on this agenda requires a departure from traditional top-down, hierarchical, and linear approaches to implementing change. Instead, it requires innovative and adaptive approaches that engage broad networks of diverse stakeholders to advance progress toward a shared vision for systemic change. This approach is called Systems Leadership.

Systems Leadership: a tool for out times

Systems Leadership is a set of skills and capabilities that any individual or organisation can use to catalyse, enable and support the process of systems-level change. It is comprised of three interconnected elements:

The individual: the skills of collaborative leadership to enable learning, trust-building and empowered action among stakeholders who share a common goal

The community: the tactics of coalition building and advocacy to develop alignment and mobilise action among stakeholders in the system, both within and between organisations

The System: an understanding of the complex systems shaping the challenge to be addressed



The CLEAR framework for leading Systems Change

Convene and commit
Key stakeholders engage in moderated
dialogue to address a complex issue of
mutual concern. They define shared interests
and goals, and commit to working together
in new ways to create systemic change

Look and learn

Through system mapping, stakeholders jointly build a shared understanding of the components, actors, dynamics, and influences that create the system and its current outcomes, generating new insights and ideas.

Engage and energize

Diverse stakeholders are engaged through continuous communication to build trust, commitment, innovation and collaboration. Inspiration, incentives and milestones help drive progress and maintain momentum.

Act with accountability

Shared goals and principles set the direction of the initiative, while measurement frameworks help track progress.

Coordination and governance structures can be developed as initiatives mature.

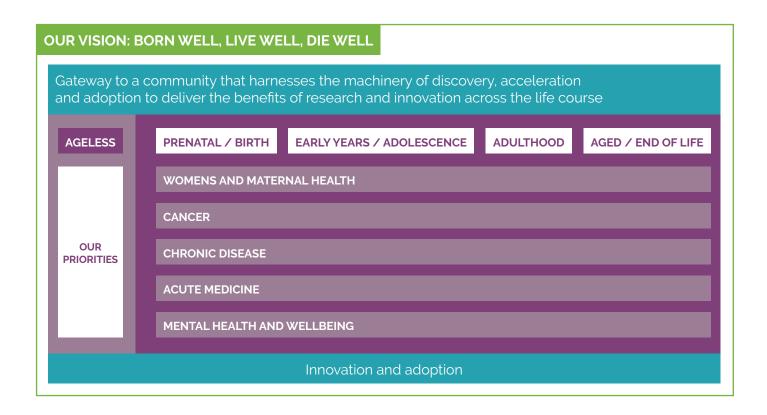
Review and revise

Stakeholders review progress regularly and adapt their strategy accordingly. Adopting an agile, flexible, innovative and learning-centered approach allows for evolution and experimentation.

Board commitment

As a Board, we have committed to supporting and enabling our people to unlock the research and innovation capabilities of our institutions, through enhanced collaborative working across organisations and the wider region.

This will allow us to better address the major health issues faced by our population. Many of these are driven by health inequalities and social determinants that affect all age groups, hence our strategic focus on an ageless approach.





Membership and Governance

A purpose-led collaboration

We are a purpose-led collaboration underpinned by a shared set of principles that focus on delivering health and economic benefits to the city-region. In order to do this, we have evolved our membership and governance to ensure that we make the most of our substantial health and life sciences capabilities.

In the last two years we have reshaped our governance structure by:

- · Appointing an independent Chair and an independent NED as part of a stronger and inclusive Board
- Establishing a BHP Executive with representation of key individuals for partner organisations who have the authority to deliver on the Board's agreed actions.
- Appointing a world class External Advisory Board, chaired by Sir Robert Lechler, a NED, to advise on and scrutinise our work.
- Appointing two senior academics to lead our strategy development and system level engagement
- Welcoming SWBH and ROH to be part of BHP
- Worked with Aston University to enable them to be part of BHP by the final quarter of 2022

Current membership can be found at appendix 1.

Strategic growth

As we have grown, our work has become increasingly visible to the wider Birmingham community leading to a number of approaches from organisations seeking to become part of BHP. These approaches will be actively explored in the coming year recognising that further expansion will necessitate:

- careful consideration of our purpose and objectives, and our focus on delivery
- · our desire to be agile in our actions and to avoid duplicating existing regional structures.

A governance review currently underway and due to complete by the end of the calendar year will consider the optimal shape and oversight for BHP.



Summary Financial Information

We have developed a shared cost model that reflects our common purpose and commitment to BHP's mission. We have put in place a lean and efficient structure, keeping the core BHP team small, and maximising our use existing resources. We have benefitted from in-kind resource and input from across the partnership to work at pace and scale. It is acknowledged these resources have an indirect cost to partner organisations.

During the last year in particular, BHP has secured new funding sources to support activity and output.

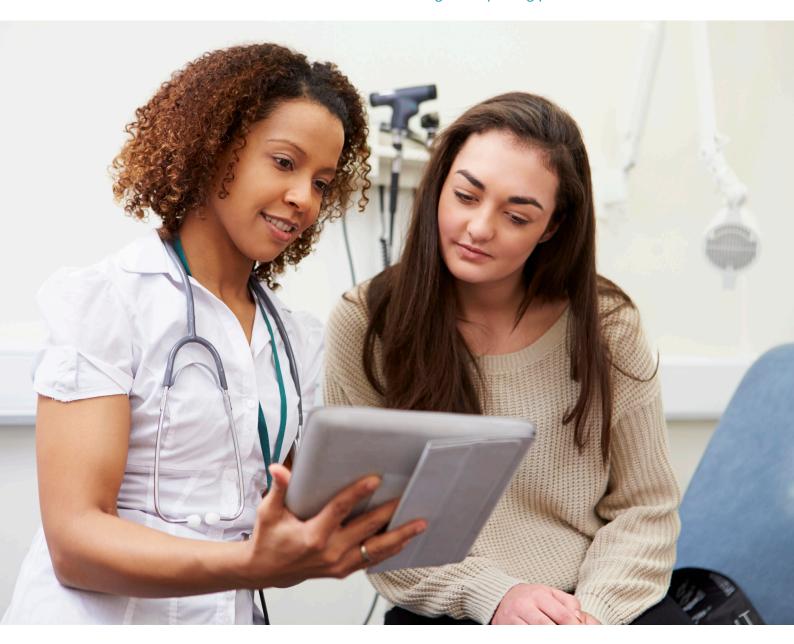
Table 1 shows a summary of direct and indirect income to BHP in 2021/22 and Table 2 shows shared costs in 2021/22.

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Funding source	Activity	Value	
New direct income 2021/22 for BHP led activity			
BSoL ICS	Evaluation of Fairer Futures Fund projects	145,000	
UHB	Evaluation of local implementation of virtual wards project	150,000	
UKRI QR funding	Evaluations of remote consultations phase 2 (phase 1 awarded 2020)	21, 250	
Metchley Park Medical Society	Contribution to BHP post-doctoral fellows (CARP)	100,000	
UoB	Contribution to BHP post-doctoral fellows (CARP)	50,000	
Metchley Park Medical Society	Contribution to BHP pre-doctoral fellows (Starter) Cohort 7	140,000	
Wellcome ISSF funds	Contribution to BHP pre-doctoral fellows (Starter) Cohort 7	140,000	
UoB	Contribution to BHP pre-doctoral fellows (Starter) Cohort 8	70,000	
Metchley Park Medical Society	Contribution to BHP pre-doctoral fellows (Starter) Cohort 8	210,000	
UHB/BWC	BHP Leadership Training (pilot cohort)	24,000	
UKRI QR funding	Contribution to BHP Fellows	46, 389	
Total			
New indirect income to	the wider partnership 2021/22*		
NIHR	Birmingham BRC	30.7m	
NIHR	CRF	12.9m	

Table 2: Shared costs in 2021/22

Partner Direct Contributions **			
UoB, UHB and BWC	Core team costs	260,000	
UoB, UHB and BWC	Seed fund pilot	300,000	
Direct costs to each BHP partner organisation in 2021/22			
N/A	Core costs of BHP team	86,000	
N/A	Seed Fund contribution	100,000	

^{**} SWBH and ROH have not been asked to contribute during this reporting period



Our shared work in 2021/22

BHP - People

Enabling and supporting educational development and training of our workforce is one of the central building blocks of the Birmingham Health Partners alliance. If we are to address the problems facing us, we need a flexible, highly-trained workforce that includes those with research and entrepreneurial skills as well as outstanding clinical abilities.

This area of our work is being led by Professor Lorraine Harper, BHP Director of Research, Innovation and Health Impact, who has a national leadership role developing academic training programmes for both clinicians and NMAHPs (nurses, midwives and allied health professionals). We are committed to supporting training with the ultimate aim of increasing the capabilities of our workforce to undertake research and to upskill our future clinical leaders.

BHP has developed a bespoke set of tools to support multiple professional groups, including for the first time, a scheme targeting experienced clinicians who wish to return to research. Read more.

BHP/MPMS Clinical Academic Research Partnership (CARP)

The BHP/MPMS Clinical Academic Research Partnership (CARP) is a new postdoctoral fellowship for clinically-qualified staff who have completed clinical training and do not have research time allocated in their job plans. After a rigorous competition four individuals have been appointed to the scheme.

BHP has been fortunate to be able to work with a number of local partners over the years who have provided significant financial support. For example, funding from UHB Charities, Metchley Park Medical Society, University of Birmingham, BWC and NIHR Wellcome Trust CRF has underpinned the BHP Starter Fellowship.

Successful applicants' projects have covered 16 speciality areas and fellows have been based in hospitals throughout BHP sites. 21 clinical fellows have been appointed since 2014; with 16 individuals progressing to external competitive fellowships with grant income of greater than £1.5million from prestigious funders including the British Heart Foundation, Wellcome Trust, Medical Research Council and Cancer Research UK.

Clinical Service Leads Development programme

The delivery of research and innovation requires informed leaders and since 2021 BHP has been working in partnership with the UoB Health Services Management Centre (HSMC) and UHB, to develop a bespoke learning programme for current NHS Clinical Service Leads. The programme allows them to explore and develop their individual management and leadership roles including a better understanding of the importance of research and innovation to clinical leadership. The focus is on practical and applied activities.

Case studyBHP Starter Fellowship

Dr Anna Price, ST3 in Renal Medicine at the Queen Elizabeth Hospital Birmingham, undertook a BHP Starter Fellowship in 2015-2016 and is currently undertaking a PhD at University of Birmingham. We spoke to Anna about her thoughts on her fellowship experience.

During my undergraduate intercalation I became involved in cardio renal research. I thoroughly enjoyed it and knew from that point on I wanted to do a PhD. After completing an Academic Foundation Programme I was unsuccessful obtaining an Academic Clinical Fellowship. In Core Medical Training the clinical workload was naturally busy and the MRCP and medical curriculum became all consuming. Research projects became squeezed into early mornings and late nights. I was fortunate enough to meet my current supervisor in my cardiology rotation and we made an application to the British Heart Foundation but unfortunately this was unsuccessful.

I applied for speciality training in Renal Medicine but felt like the opportunities to do research were dwindling away. I became resigned to a career without research when the BHP fellowship flyer was emailed to me. The fellowship was a unique opportunity to gain independent funding to complete a PhD on a topic of my choosing. It gave me the break I had been waiting for.

The BHP fellowship gave me dedicated time to make several funding applications and successfully fund my study consumables and time out of programme for three years. Within my BHP fellowship year I was awarded three grants including a personal British Heart Foundation Clinical Training

My confidence has grown, and I have more self-belief that I can work through challenges and find my own solutions Fellowship totalling £249,000. I have had the time to set up my study protocol, gain ethical approval, buy equipment and learn the skills required to hit the ground running.

The fellowship has taught me perseverance and persistence. My confidence has grown, and I have more self-belief that I can work through challenges and find my own solutions. I approach research papers in a completely different way now. I am more critical of the methodology used and I don't take findings at face value. It has reaffirmed my desire to have a career in Academic Medicine. Completing a PhD is the first step in achieving that goal.

Being involved in an established research group has given me experience in clinical trials and multi-centre studies. I have been lucky enough to work with some of the best academics in their field. I have really enjoyed aspects of research that I didn't think I would such as statistics. I have also been able to explore sub specialities such as hypertension which I hadn't considered before.

Developing an integrated health and life sciences ecosystem

Success in 2022

The successful renewal in 2022 of two major NIHR infrastructure awards for translational research the Clinical Research Facility (CRF) and Biomedical Research Centre (BRC) reinforces the core of our experimental medicine/translational research capability. The awards reflect, and have been driven by, collaborative working between HEIs and the NHS over the last 30 years that led to the establishment of BHP.

Renewal of core support

Birmingham Clinical Research Facility (CRF)

<u>Birmingham CRF</u> was one of a number of pioneer CRFs established in the early 2000s by a significant capital investment from the Wellcome Trust, alongside core funding from what has now become NIHR. UoB and UHB co-own and manage the CRF and have invested significant resource into the facility to sustain its success.

The CRF has consistently attracted further capital and core investment over the past 20 years that has enabled both the growth of the existing facility and the development of a children's CRF hosted by BWC enabling an approach that has:

- Delivered new treatments to over 150K patients from babies to old age
- Driven an increase in the number of people participating in research year on year
- Delivered multiple COVID-19 studies including every affected child into COVID-19 research
- Maintained a pipeline of approx. 500 non-Covid studies including 25 first in human studies

The renewal of the core NIHR award - £12.9m under the unifying leadership and management of BHP – will provide patients with opportunities to participate in experimental medicine research projects alongside their routine clinical care. As a general CRF, we manage a diverse portfolio of activity with key areas of strength including cancer, liver disease, metabolic and endocrine, renal and cardiovascular thereby meeting our population's needs. We will be increasing research opportunities to underserved disease areas (mental health, neonates, women's health), therapies (advanced therapies, vaccines, medical devices/technologies), geography (new NHS sites) and populations underserved by innovation.

In addition, our CRF is a vital facility for enabling healthy volunteer studies and first in human trials for the advancement of new treatments and will continue to deliver this important work over the next five years. During the past two years we have been excited by the opportunity of working closely with the CRF established at Sandwell Hospital by our new BHP member SWBH. This extends the reach and capabilities of our CRFs across the whole city.



Case study

We have discovered the first effective treatments for a common liver disease

Non-alcoholic fatty liver disease (NAFLD) is the commonest liver disease in Western Europe/US. It is particularly widespread in people who are overweight and/or have type 2 diabetes. In NAFLD, fat builds up in the liver, causing injury. This can cause cirrhosis (scarring) and ultimately death from liver failure. There is no treatment for NAFLD.

If successful, this will lead to the first-ever approved drug for the 1 million patients with advanced NAFLD in the UK.

We experimented in the lab with using the obesity drug Liraglutide (GLP-1 drug) to treat NAFLD. We demonstrated that Liraglutide directly reduces the production of fat inside the liver and reduces liver inflammation. This substantially reduces the patient's chances of serious illness or death.

We followed this with a clinical trial of Liraglutide across the UK. This showed Liraglutide was able to reverse fatty liver in 40% of patients – a major breakthrough. We built on this by leading a global study of Semaglutide (a drug from the same 'family'). This trial demonstrated

that Semaglutide reverses fatty liver in 60% of patients. This drug is now the front-runner treatment for patients with NAFLD. We have now been asked to lead the global phase 3 drug registration trial.

If successful, this will lead to the first-ever approved drug for the 1 million patients with advanced NAFLD in the UK.

Our success has been recognised by further major grants to study NAFLD and its treatment. We expect this will lead to even better treatment for NAFLD in the future.

Renewal of core support

Birmingham Biomedical Research Centre

The <u>NIHR Birmingham Biomedical Research Centre</u> has evolved over the last decade as the level of NIHR support has increased. It is the driver of experimental medicine research in BHP which builds the infrastructure and resources initially put in place by UHB and UoB, and now added to by BWC, SWBH and the ROH.

The BRC brings together established strengths in inflammation biology and experimental medicine to create a process-driven, pathway-focused approach to the study and management of inflammatory diseases. The pathway is underpinned by a number of cross-cutting activities that reflect our strengths in trial design and delivery, devices and diagnostic tests, entrepreneurship and commercialisation. The BRC has used the BHP ecosystem to deliver substantial growth in research excellence, capacity and reach over the last five years culminating in a successful bid to increase our funding and allow us to bring in other BHP partners to expand our capabilities. Read more.

Case study

Birmingham leadership in UK cell therapy research, translation, production and innovation

- The use of human cells as medical treatments is one of the most important scientific breakthroughs of the last twenty years. Cell therapies offer hope for injuries and common diseases that have never had any effective treatment, including liver diseases, blood cancers and arthritis. Birmingham is a key component of the UK's leadership in this exciting and important area.
- Birmingham's scientific laboratories have discovered and tested a broad range of cell therapies. Our laboratory studies include cells that help to control the immune system (and so reduce inflammation), cells that break down scar tissue and cells that help the body's immune system to fight cancer.
- After such successful experiments, we have delivered large numbers of early phase clinical trials, where we used tailored cells for patients with liver cirrhosis (scarring), liver cancer, inflammatory liver disease, blood cancers, arthritis and COVID pneumonia. We manufacture these cell therapies in-house at the Birmingham Advanced Therapies Facility.
- Our leadership and success was recognised by our successful bid to lead one of the UK's three
 Advanced Therapy Treatment Centres (ATTC) these are strategic national resources dedicated
 to cell therapy research, production and clinical use. Our Midlands & Wales-ATTC serves a
 population of 10 million, enabling hospitals across the Midlands and Wales to offer advanced
 therapies and building expertise across the NHS workforce.
- A key part of the MW-ATTC is our Cell Therapy Trials Acceleration Platform for running new clinical trials in cell therapies. This is enormously useful for companies with new ideas for cell therapies, who want to translate them into patient treatments. The Platform and the ATTC have attracted researchers and companies to the Birmingham region, creating new jobs and offering world-first access to new treatments, to our patients.
- Notably, UHB/UoB delivered 32% of all UK advanced therapy trials in 2019.
- For the future, we are training the cell therapy workforce of tomorrow in our national Advanced Skills Training Network (one of just three in the UK). Jointly with Oxford, we are delivering a new NIHR Blood and Transplant Research Unit in Precision Therapeutics (Cell therapies). Our new Birmingham Health Innovation Campus will further extend our cell therapy manufacturing facilities.
- Patients have been at the heart this success, throughout. We work closely with dedicated
 patient groups to understand their priorities, to inform them of new discoveries, and to actively
 contribute to new trials and discoveries.

Against this backdrop, our successful renewal has seen an almost doubling of NIHR investment into the Birmingham BRC which will allow us to expand the institutional footprint of the BRC bringing it into closer alignment with BHP physically and strategically.

Research themes now include six illness-specific themes (arthritis, infection and acute care, liver, metabolic health in women, oncology and oral, intestinal and systemic health) underpinned by innovative methodologies in data science and patient reported outcomes, tests and biomarkers, and next generation therapies.

Precision Health Technologies Accelerator (PHTA)

Birmingham Health Innovation Campus

Birmingham Health Innovation Campus (BHIC) is due to open in 2023, with the launch of the Precision Health Technologies Accelerator (PHTA). The PHTA will offer industry partners access to leading academics and clinicians as well as cutting-edge innovation facilities, building on BHP's strengths in healthcare data, genomics medicine and diagnostics, medical technologies and clinical trials. Accessing the BHP ecosystem will create opportunities for transformative collaborations between businesses, the University and NHS partners.

As these examples show, BHP is a critical driver of the Birmingham region's aim to make a significant contribution to the delivery of the UK's ambition to be a health and life sciences 'superpower'. Given the strength of its partners, infrastructure and capabilities, BHP is well placed to attract the inward investments needed to accelerate the development and adoption of healthcare innovations thereby transforming the health of our citizens, in Birmingham and beyond.

Find out more here: phta.co.uk



Convening and commissioning in 2021/22

University of Birmingham wide co-ordination of research

BHP has convened groups of leading academics and clinicians to identify opportunities that can bring together UoB and NHS partners to help achieve BHP's goal of achieving health and economic impact in the following areas

Humanities

We worked with the UoB College of Arts and Law to identify areas of expertise in the arts, humanities and law that could contribute to a multi-disciplinary approach to health inequalities. Three broad interdisciplinary areas were identified:

- · Health law and human rights
- · Language, communication, storytelling
- · Artistic performance and creativity, and creative spaces

Work is now underway to take develop these areas further with our NHS partners.

Engineering

Researchers in the UoB College of Engineering and Physical Sciences work extensively with colleagues drawn from across BHP. The colocation of research space within the BHP-Institute of Translational Medicine have enabled the development of a flourishing collaborative environment in the form of the Healthcare Technologies Institute (HTI). The main areas of collaboration are:

- Biomaterials
- Additive manufacturing
- · Regenerative medicine
- Sensors and diagnostics
- · Data Science maths and computer science

Examples of the research programmes can be found <u>here</u>.

PHTA/BHIC offers the opportunity to build on this success and accelerate progress in advancing this this work towards the point of patient use and commercialisation. A number of spin-outs from UoB have been funded to commercialise medical technologies including:

- <u>Healome Therapeutics</u>
- <u>Tagomics</u>
- 4D materials
- Chromatwist
- Quest Meat

These companies - with others at the point of spin-out - will help to lay the foundations for future commercial exploitation and potential implementation of innovation across BHP.



Mental health

BHP has a critical role to play catalysing relationships with both the mental health and community trusts to ensure many of the childhood mental health problems and neurodevelopmental disorders managed within community paediatrics are able to benefit participation in research studies. BHP member, BWC, delivers the largest NHS 0-25 Youth Mental Health service in the country – and collaborations with third sector groups can facilitate research with specific marginalised groups.

Colleagues from the Institute for Mental Health (IMH), an interdisciplinary UoB centre identified three broad areas of research that align with local and national priorities:

- 1. What are the causes of the sharp increase of mental health problems in young people?
- 2. What new interventions and services can be implemented to improve the lives of young people with mental health problems?
- 3. How can we ensure that societies tackle, and do not contribute to, the mental health problem?

Embedding mental health as a strategic priority for BHP will be critical to the development of a clinical and research vision that offers a coherent, broad, inclusive, and interdisciplinary conceptualisation of health and illness. Creating this integrated environment (and including social care, education, third sector, areas of strength across our University partners) will generate a powerful route to real innovation in an area that has long been overlooked.

This will be a focus of our work over the next 12 months.

Public health

UoB has a strong public health community reflected in its regional leadership of the NIHR School for Public Health Research. A cross-cutting theme across all public health work is a focus on reducing inequalities, a central issue for BHP. Core research areas are:

- Maternal and child health
- Behaviour change research
- Methodological innovation and data science

New and emergent areas point to opportunities for the development of an innovative BHP public/population health strategy.

Themes including food systems research, air quality improvement and carbon reduction strategies and interventions. Studies to evaluate the impacts of digital technology and social media use on children's physical and mental health point to the opportunity for building new collaborations.

These themes will be explored over the next 12 months.

Data science

Thanks to the significant leadership and investment of UHB, BHP provides a focal point for our regional strength in the use of health data. UHB along with UoB have led the development and implementation of the Health Data Research UK Midlands Site under the leadership of Simon Ball (Director of HDRUK Midlands) as well as of the two of the seven Health Data Research UK hubs (the only two substantively led outside the Golden Triangle).

We are now in the process of establishing a BHP Centre for Health Data Science and Digital Epidemiology that will enhance our shared leadership in the health data science arena. It will be one of the building blocks that will help to harness the full potential of BHP health data science capabilities.

A strategy is being prepared that outlines our ambition to build a leading health data cluster that will drive quality improvement, evidenced uptake of innovation and high-quality research to deliver better care for patients.





Our sponsored studies

A key part of BHP's work is to identify and take advantage of new opportunities. We have supported five proposals across a range of different topics and activities in the last 18 months:

Place-based investments in health-related RD&I to stimulate regional growth

Working with the City/WM-Regional Economic Development Institute (REDI) and MetroDynamics consultancy, BHP is supporting a study of the ability of place-based investments in health-related RD&I to stimulate regional growth and reduce inequalities. The work will enable a better understanding of the economic benefits of targeted local investment to support innovation and 'clustering' of life sciences businesses. This is particularly relevant for levelling up, and the need to rebalance local economies in order to truly address health inequalities.

Rapid evaluation of remote consultations

BHP has commissioned work led by Prof Judith Smith (UoB and BHP Director of Health Services Research), Tanya Pankhurst (UHB) and Ally Davies (BWC) which has examined the shift from face-to-face to remote outpatient consultations during the pandemic, and whether this should be sustained longer term. The team worked with clinicians and managers to explore facilitators of and barriers to sustaining the pandemic use of remote consultations. The evaluation tests the hypothesis that, without specific actions, the shift from face-to-face outpatient consultations during the COVID-19 pandemic may prove to be temporary, and that there will be renewed demand from some patients, policy makers, health managers and clinicians for in-person appointments.

Policy commission focused on 'Effective, Safe and Accessible Medicines in Pregnancy'

BHP supported the 'Healthy Baby, Healthy Mum, Healthy Future' report from a Policy Commission that focused on 'Effective, Safe and Accessible Medicines in Pregnancy'. The launch event in Westminster received significant support alongside media coverage in The Guardian, BBC, BMJ and other media. Subsequent engagement has included meetings with Dame Lesley Regan (Women's Health Ambassador), Baroness Finlay of Llandaff and the Maternity Disparities Taskforce and ABPI. We are working with the Academy of Medical Sciences to develop a FORUM event focusing on developing novel medicines in pregnancy in December 2022, and we continue to engage with Professor Lucy Chappell (Head of NIHR and Director General OLS) to map out a delivery and oversight plan for implementation of recommendations.

BHP's Centre for Regulatory Science and Innovation

BHP has supported the establishment of a <u>Centre for Regulatory Science and Innovation</u> that has led and supported a wide range of national initiatives over the need for evidence-based policymaking in regulation of healthcare and life sciences. These include work underpinning the <u>Regulatory Horizons Council's recommendations to Government on future UK regulation of medical devices</u>; and work with trade associations including CBI, ABPI and ABHI.

Partnership working with outside bodies

Working with outside bodies has helped raise the profile of BHP in recent times:

BHP-Association of the British Pharmaceutical Industry

The ABPI and BHP share the ambition that Birmingham and the West Midlands is recognised as a leading location for translational research of relevance to the wider Pharma sector. We came together to focus on four key regional health challenges that have national and international relevance and that take advantage of the region's combination of expertise, capabilities and integrated translational ecosystem to create a genuinely differential offering and potential for significant economic impact. These are:

- Improving cancer outcomes
- Addressing maternal and paediatric health
- Tackling multimorbidity in an ageing population
- Rapid, validated assessment of biological endpoints of new, patient-focussed drug development

We are currently reviewing the relationship with a view to extending it to ensure we maximise impact on the health of our population.

ABPI/CBI/BHP review of West Midlands Life Sciences ecosystem in 2021/22

Regional life sciences innovation clusters are vital to the UK's future as global leader in life sciences. To understand better how the BHP can become the regional health and life sciences cluster for the West and wider Midlands, we worked in partnership with the ABPI and CBI to review the regional offer. The <u>report</u> set out recommendations that if implemented in full, could help ensure BHP plays a significant role in delivering the government's Life Sciences Vision of making UK a leading global hub for life sciences:

- 1. Attract more R&D investment
- 2. Address health inequalities
- 3. Leverage our pandemic response
- 4. Join up our leadership
- 5. Develop a clear identity
- 6. Collaborate effectively

Academy of Medical Sciences/FORUM

BHP is an active participant in the <u>Academy of Medical Sciences FORUM</u> group which provides a neutral and independent platform for individuals from across academia, industry, the NHS and Government, and the charity, regulatory and wider healthcare sector, to meet and take forward national discussions on scientific opportunities, technology trends and associated strategic choices for healthcare. We are working with the Academy of Medical Sciences to develop a FORUM event focusing on developing novel medicines in pregnancy in December 2022.

Forward look 2022/23 and beyond

Following the adoption of a new governance model in March 2020, the last two years have seen the groundwork put in place that will enable BHP to be a more inclusive and effective voice for health and life sciences in our region. We have built a pipeline of shared activity that will start to deliver benefits that extend beyond our members. These includes the following activities:

BHP Rapid Evaluation Service

BHP Rapid Evaluation Service: If the NHS is to achieve effective innovation implementation it will require an evaluation service to determine whether the intervention has been successful which is as agile and flexible as the environment that innovation now inhabits. Drawing upon existing expertise across BHP a programme of evaluation methods will be provided that can be tailored to the bespoke learning and evidence needs of partner organisations and external collaborators.

BHP Research FIRST

Delivered through BHP and the Institute of Translational Medicine (ITM), <u>Research FIRST</u> provides a flexible and innovate approach to supporting non-CTIMP research and other projects (for example, Clinical Audits, Service Evaluations and Management Databases). This service will be offered to all BHP partners.

BHP Health Data Strategy

A BHP strategy for Health Data will be developed to help to strengthen our leadership in how we make effective use of health data.

BHP Seed Fund

The BHP seed fund is intended to pump-prime short-term innovative projects to address challenges common to all parties. The seed fund is intended to foster interdisciplinary innovation through bringing together healthcare professionals, academics, students, innovators/makers and entrepreneurs will build new challenge-focused communities, that look to deliver the initial steps towards implementable solutions. Over thirty expressions of interest have been received and the level of visibility of BHP and our work has been increased across our partners. Awards with be made later this year.



BHP Clinical Trials Working group

The group is working to streamline the clinical trial grant development and setup processes involving UoB and our NHS organisations. In addition to streamlining our processes, the group is creating and implementation of guidelines to support all aspects of clinical trial application development. Its work will help create greater working alignment and cohesion between our organisations and support the development of our investigator community.

BHP Events and Seminars

Following a successful seminar series in 2022, we are planning increased numbers of events, seminars and CPD offers to raise the profile of BHP with both internal and external audiences.

Our shared future

We have developed BHP to the point where it is beginning to demonstrate the benefits of collaboration across our organisations. The addition of new members and the emergence of integrated care systems together with changes in the funder landscape offer new opportunities for BHP to continue to develop and promote our collaborative purpose.

The year ahead will see us undergo a governance and strategy review, the outcome of which will be a critical enabler of how BHP will set and deliver a new strategic framework. This will be focussed on making sure we enhance the ability of our researchers to exploit the outstanding infrastructure that is now in place across the city to deliver innovation and improved outcomes in health care. The Board and Executive are both excited and optimistic about the contribution that BHP will make to addressing the profound health inequalities across the city and region.



Appendix 1

Birmingham Health Partners Board

Member		
Ed Smith	Chair	
Prof Adam Tickell	Vice-Chancellor UoB	
Harry Reilly	Interim Chair, UHB	
Prof Sir Bruce Keogh	Chair, BWC	
Prof Michael Sheppard	Chair, WMASHN	
Prof Sir David Nicholson	Chair, SWBH	
Tim Pile	Chair, ROH	
Prof Sir Robert Lechler	Non-Executive Director	
Prof David Adams	PVC and Head of College Medical and Dental Sciences	
Sarah-Jane Marsh	Chief Executive, BWC	
David Rosser	Chief Executive, UHB	
Richard Beeken	Chief Executive, SWBH	
Jo Williams	Chief Executive, ROH	
In attendance		
Dr John Williams	BHP Managing Director	
Sarah Turner	Secretariat	

Birmingham Health Partners Executive

Member	
John Williams	BHP Managing Director and Chair
Prof David Adams	BHP Director
Dr Kate Bishop	Director of Operations MDS
Prof Tim Jones	Provost UoB
Tim Jones	Chief Innovation Officer UHB

Member		
Hilary Fanning	Director of Research and Development UHB	
Matt Boazman	Chief Innovation Officer, BWC	
Tony Davis	Chief Executive, WMAHSN	
Prof David Carruthers	R&D lead SWBH	
Prof Phil Begg	R&D lead ROH	
Prof Stephen Jarvis	PVC and Head of College Engineering and Physical Sciences	
Prof Mike Lewis	UoB	
Dr Clara Day	Medical Director, BSoL Integrated Care System	
Prof Lorraine Harper	BHP Director of Research, Innovation and Health Impact	
Prof Judith Smith	BHP Director of Health Services Research	
In attendance		
Sarah Turner/Karen McNaughton	Secretariat	

BHP External Advisory Board

Member	
Prof Sir Robert Lechler	BHP Non-Executive Director and Chair
Larry Turka MD	Chief Scientific Officer, Rubius Therapeutics
Prof Ibrahim Abubakar,	Director of UCL Institute for Global Health
Prof Andrew Morris	Director HDRUK
Prof Anita Charlesworth	Director of Research, The Health Foundation
Prof Reza Razavi	Vice-President and Vice-Principal King's College London
In attendance	
Prof David Adams	BHP Director
Dr John Williams	BHP Managing Director
Sarah Turner	Secretariat

