

Institution: Edge Hill University
Unit of Assessment: A3 Allied Health Professions, Dentistry, Nursing and Pharmacy
<p>1. Unit context and structure, research and impact strategy</p> <p>Overview</p> <p>Edge Hill University (EHU) is one of the largest providers of health and social-care education in north west England, with a wide range of experts from nursing, allied health professions and medicine. Our submission is composed of staff from our Faculty of Health, Social Care and Medicine (FHSCM): School of Nursing, Midwifery & Allied Health, School of Applied Health, Social Care & Social Work and the EHU Medical School (established 2019). FHSCM makes a major contribution to health and social care locally, nationally and internationally by providing high-quality, innovative multi-professional education integrated with collaborative, responsive, impactful research. Building on our work submitted in REF2014, and underpinned by an extensive programme of research support (see section 2) and strategic investment (see sections 2 and 3), we have created a vibrant research culture. Through transformative research leadership we offer a supportive environment for research development, collaboration and achievement, closely aligned to clinical practice. Along with a 164% increase in the number of researchers submitted, we significantly enhanced the quantity (over 860 peer-reviewed outputs in the period) and quality of research outputs including publications in the <i>Lancet</i>, <i>Circulation</i>, <i>Diabetologia</i>, <i>Journal of Advanced Nursing</i>, <i>Palliative Medicine</i>, and 17 in <i>Cochrane Database of Systematic Reviews</i>.</p> <p>Our research and how it is structured</p> <p>Our research focuses on improving health services and health outcomes locally, nationally and internationally by collaborating with patients, carers, families, professionals, services and communities. We have organised our work into three research clusters which bring together expertise from across the faculty and are utilised to facilitate research, support the cascade of knowledge, skills, networks and the development of staff.</p> <p>The REF2014 submission included two research clusters: Supporting Care and Improving Professional Practice. During the current REF cycle the breadth and depth of our research has evolved significantly leading to our current three cross-Faculty and multi-disciplinary research clusters, reflecting staff recruitment and development, and our partners' and funders' priorities and challenges.</p> <p><u>Children, Young People and Families (CYPF)</u></p> <p>Established during current REF period, CYPF focuses on understanding and meeting the needs of children and young people; particularly those living with long-term or life-limiting conditions (Bray, Carter, Flynn, Knighting) and learning disabilities (Kiernan). There is also an emerging body of research on family estrangement (Blake) and maternal health (Abayomi, Briscoe). Projects reflect significant collaboration with Alder Hey Children's NHS Foundation Trust (NHSFT) where Carter and Bray lead the Children's Nursing Research Unit (section 4), which has received significant funding, not least, from NIHR: for example, the multi-centre Programme Grant (£2.2M) CASTLE study (Changing Agendas for Sleep, Learning and Epilepsy); an RfPB study (£220K) related to paediatric Crohn's disease; the BeArH project (Before Arrival at Hospital) and the £1.2m NIHR i4i DETECT (Dynamic Electronic Tracking and Escalation to reduce Critical Care Transfers) study.</p> <p><u>Prevention and Management of Conditions in Adults (PMCA)</u></p> <p>Identified in REF2014 as the supporting-care research cluster, this cluster has broadened its focus in response to our expanding research expertise and national policy emphasis on the prevention and management of chronic conditions. This group has four sub-groups:</p> <p>Supportive and end-of-life care (Jack, Knighting, O'Brien, Peacock, Spencer, Stanley) includes work with Queenscourt Hospice, Palliative Care Institute Liverpool and the Institute for Hospice and Palliative Care in Africa.</p>

The recently established respiratory research cluster (**Kelly, Leadbetter, Lynes, Relph, Spencer**) led on an evidence gap-analysis of bronchiectasis research through a series of seven Cochrane reviews, managed by **Spencer**, with international teams, that have informed national and international guidelines.

Population health cluster (**Abayomi, Blennerhassett, Bradbury, Dey, Owen, Relph, Spencer, Irving**) includes research into musculoskeletal health led by **Dey** with **Relph**, with international collaborators, which led to the development and validation of an app funded by Arthritis Research UK/Versus Arthritis, as well as behavioural nutrition and cardiometabolic health which has included national and international guidelines.

The Arts and Wellbeing sub-group (**Ashton, Gibson, Karkou, Richards**) has already established strong international links with collaborators from Italy, Bulgaria, Lithuania and the Netherlands. Work by **Karkou** and **Richards** has been included in the recent WHO scoping review on the contribution of the arts to health and wellbeing with further WHO commissions (section 4), supporting our growing reputation in this area.

Improving Professional Practice (IPP)

Established during the REF2014 period, IPP focuses on optimisation of individual potential and the transfer of learning into practice (**Brown, Garner, Jones, Kaehne, Krishnamoorthy, Leadbetter, Pearson, Sandars, Watmough**) and informs service delivery (**Brown, Dey, Kaehne, Kelly, O'Brien, Sandars, Spencer, Watmough**). This group has well-established, close links with Health Education England North West (HEENW), which has funded projects totalling £250K. Research has identified training needs and produced recommendations for change, including influencing NICE guidelines. It has also informed service delivery including the Patient Concerns Inventory (PCI) (case study) and **Irving's** work on international variation of consultation length in primary care (one of the most cited papers in BMJ Open) which was reported in over 100 news outlets globally and featured in the Lancet Global Health Commission on High Quality Health Systems presented at UNICEF (2018 UN General Assembly). It has been cited in two policy documents (WHO and IPO), <https://www.altmetric.com/details/28647360/>, resulting in international adoption for longer consultations in primary care (Argentina, Ethiopia, India, Kenya, Nepal). Our work includes laboratory-based research focusing on development and delivery of new therapeutics (**Austin, Welsby, G., Welsby, P.**).

Research objectives 2014-2020

We set out three strategic aims in our REF2014 submission:

SA1: To build our research capacity and capability through effective recruitment and research support within a culture of research inquiry and, where appropriate, alignment with practice

We have expanded our research capacity during this REF cycle through significant investment in recruiting research-active staff (54% of our staff with significant responsibility for research (SRR) have been recruited during the current REF period) and staff development (16% of our staff with SRR were supported to attain PhDs, thereby facilitating their move from practice to research). We have established a suite of research-support mechanisms (section 2) and have used EHU's internal research-funding to strategically support ECRs to attain external funding (section 3). This has increased the number and percentage of staff being returned to REF2021 relative to REF2014 (37:14 headcount; 22%:9%).

We have invested in researcher leadership to grow our research capabilities and drive our research culture (section 2). The focus of our REF2014 submission had been the Evidence-based Practice Centre which was a small and self-contained department. Research-active staff are now firmly integrated into all schools, engaging in both teaching and research. This has created a rich and lively research culture for people at all career stages, grounded in work valued and informed by our external partners and communities.

SA2: To increase the size and secure the sustainability of our postgraduate research (PGR) community

We have made effective use of the University's Graduate Teaching Assistant (GTA) scheme, and increasingly succeeded in attracting external funding for doctoral students, including self-funded students and employer-funded part-time studentships, firmly embedding doctoral research in professional practice. Indeed, our growing research reputation has attracted high-calibre research students leading to a four-fold increase in PhD completions during the REF2021 period (section 2).

SA3: To develop and support collaboration with new and existing partners to ensure our research is informed by, and of benefit to, health and social-care providers and their communities

To maintain external relevance, currency and impact, we have ensured our research is informed by professional practice. The Health Research Institute (HRI, established 2014, originally as the 'Postgraduate Medical Institute') brings together academics from across the University as well as external colleagues, to support cross-sectoral multi-disciplinary research collaboration, prioritisation and dissemination. The HRI Steering Group's external membership and our recently-established thematic research centres – the Respiratory Research Centre and the Centre for Arts and Wellbeing – promote external collaboration. We work closely with regional health and social care providers and commissioners. This includes board membership and honorary appointments. We further enrich user-driven research prioritisation through our Patient and Public Engagement and Involvement (PPIE) work, which includes our Service User and Carer Group. We have extended our international collaborations (more than 50 publications have international collaborators), as well as membership of research networks and academic health-science networks including NIHR Applied Research Collaboration North West Coast (ARC NWC), Liverpool Health Partners (LHP) and the Innovation Agency North West Coast.

The growth and consolidation of partnerships has also been central to the growth in income and awards and continues to be a vital part of our income generation strategy.

How we have sought to facilitate impact

The HRI (director **Spencer**) is our principal vehicle for purposeful interaction with external partners (section 4). Its mission is to facilitate and enable collaborative research across a range of academic perspectives with external stakeholders in the NHS, social care, charities and other health-related organisations. To that end, it organises public-facing events and supports the development of partnerships and collaborations.

Our research ethos places strong emphasis on impact and the co-creation of outputs. Such reciprocal modes of collaboration have been crucial for the co-production of knowledge, and for assisting the development of academic engagement with non-academic research users. Moreover, staff leading the impact agenda have previous experience of facilitating impact with external partners and this has driven a broader impact-culture which has widened and developed research-impact capability across our research discipline areas. For example, we established a new impact support research assistant (RA) role to assist in the development and promotion of impact training; we also worked with the University's Research Impact Manager to support staff when planning new projects. We ensure that staff with SRR and those with credible research aspirations participate in impact training and discussion so that the nuances of impact are well understood before individuals or groups embark on research projects. This training has included a workshop run by Prof. Mark Reed (co-founder of Fast Track Impact). We encourage individuals to apply for institutional IKEF funding which is reserved specifically for the support of impact arising from published research.

Our three REF2021 impact case studies are indicative of partnerships and our work to embed impact. They come from research led by professors, most of whom were part of the UOA in 2014, arising from established bodies of research and collaborative activities conducted with longstanding, and more recent, external partners such as Liverpool Universities NHS Foundation

Trust (NHSFT), Alder Hey Children's NHSFT, Motor Neurone Disease Association (MNDA); Macmillan Cancer Support, Crohn's and Colitis UK and Wellchild.

We have engaged patients, service-users and professionals throughout our research process, in order to improve practice and to influence policy. The Carers Alert Thermometer (CAT), a long-standing programme of research, led by **Jack**, has engaged with carers and professionals to identify support needs for those proving end-of-life care, as well as care for those with progressive and chronic conditions. The CAT has developed evidence-based, free-to-use resources which have been recommended by the National Gold Standards Framework end-of-life training programme (2016).

In a comparable vein, the Patient Concerns Inventory (PCI), led by Rogers and **O'Brien**, was developed with cancer patients, to focus and support patient-centred care during outpatient consultations. In this REF period, items from the PCI-head and neck have been incorporated into the Macmillan Cancer Support Holistic Health Needs Assessment, while the PCI has been developed further to other conditions.

Working closely with children, families and professionals at Alder Hey Children's hospital, **Bray** and **Carter** have developed resources and recommendations which have been adopted in Royal College of Nursing (RCN) clinical guidance (2016) on holding and restraining of children and young people. Work alongside charities and health providers has also led to the development of tools and resources that improve children's healthcare experiences in hospital and in coping with chronic conditions.

Our approach to supporting interdisciplinary research

While staff are aligned to one primary research group, the multi- and inter-disciplinary nature of our research means staff frequently work across multiple groups and with colleagues both inside, and outside the unit (e.g., business and management, computer science, psychology, sport, performing arts, education). This flexible approach promotes novel ways of thinking and enables us to build a stable and sustainable base of research activity which is responsive to the changing needs of research users, specifically health and social care commissioners, NHS trusts, major charities, regulatory bodies, practitioners, service-users, patients and their families. Thus, our research addresses the social, cultural, and economic challenges experienced locally, nationally and globally. Developing multi- and inter-disciplinary research teams in established and growing research areas also informs continuation and succession planning for future staff recruitment, and strategic decision-making on research-development activities for existing staff. This facilitates novel and evidence-based research underpinned by established methodologies.

Our interdisciplinarity is very much supported and promoted by the work of the HRI and by staff members engaging in the University's other research institutes. These are structured deliberately to encourage cross-disciplinary working; the HRI's deputy director is from the Department of Psychology and key projects are based in the Department of Sport and Physical Activity. There are also interdisciplinary projects within the Faculty reflecting the broad range of interests: these include **Dey**'s work with Sport and Physical Activity and work with Computer Science linked to the PCI.

Commitment to Open Research

We are committed to open research outlined in EHU's Policy on Open Access (OA) and its statement on support for open research (OR). All our research outputs are deposited in the University research repository (Pure) and understanding OA is integral to the research induction process. We have developed and promoted a culture of OR by hosting presentations and workshops on OA and data sharing, by disseminating University-wide information and opportunities and by embedding discussion within our research clusters and the Faculty's Research Committee. We have promoted the use of 'read-and-publish' agreements the University has signed with publishers (including Springer, PLOS, SAGE and Wiley). We support internal funding applications for gold OA, use research rewards (University funding to reward

grant capture) to support publication costs and encourage inclusion of these costs on external funding applications. A recent annual audit showed that, on average, an article (whether research or practice oriented) from the Faculty becomes freely available after five months, demonstrating the success of our approach. We have started to disseminate freely-available resources through Figshare; these include animations, information leaflets and non-research ebooks. Indeed, we use a wide range of approaches, such as EHU's partnership with Tate Liverpool, to ensure external (lay-)audiences can access and engage with our research: e.g., we held a creative event (2019) for over 80 health professionals, children and parents to share research data from two funded studies regarding the information needs of children coming to hospital. Further promotion of research findings is supported via publication platforms: e.g., *The Conversation* and *Kudos*. We are actively involved in helping establish an EHU instance of the UK Reproducibility Network.

Post-REF2021, we will enhance our commitment to open and transparent research practices by creating a faculty lead for OR to promote knowledge, understanding and use of OA resources, data sharing and fee-free research repositories in general science (such as Figshare and Open Science Framework) and specific health-science communities (such as clinicaltrials.gov), as well as reproducibility.

Research Integrity

Integrity and ethical practice are at the heart of what we do. We are committed to respecting the dignity of all those involved in our research processes and principal investigators are responsible for ensuring the integrity of their projects. This culture is deeply embedded within the Faculty and research ethics and governance training is core to the induction process for new staff and in PGR training. Staff members attend external training and development events including those provided by UKRIO, NIHR and the Health Research Authority (HRA). The University's new online ethics monitor enhances annual review of projects in the Faculty and the University's central research ethics committee does regular random checks on projects which helps to reinforce the ethos that ethical approval is not a one-time event, but an on-going process.

We work in tandem with the University's research-governance infrastructure which promotes and assures research integrity. All PGR students and staff adhere to the EHU Research Ethics Policy. Thorough ethical scrutiny and monitoring of all projects at Faculty level not only prepares EHU researchers for external research governance bodies, such as the HRA, but provides accurate research-management information. Research governance processes in the University and Faculty are well-established and Faculty staff play key leadership roles at University level: **Brown** chairs the University's Research Ethics Sub-committee; **O'Brien** chairs the Health-related Research Ethics Committee and **Austin** chairs the University's Human Tissue Management Sub-committee. The University recently revised its ethical approval processes and **Brown** and **O'Brien** were integral to that review process, providing sector expertise to ensure that the new structures were robust.

Future strategic objectives

Our vision is to build on our national and international reputation of high-impact, responsive research and innovation that addresses key health and social-care challenges, locally, nationally and internationally. The key objectives of our strategy are:

- To expand the capacity and reach of our research clusters whilst nurturing new and emerging research. Experienced research leads will drive this expansion. We will work closely with the HRI, and other University institutes, to support cross-faculty, interdisciplinary research. We will develop our newly-established research centres in Arts and Wellbeing and Respiratory Research to ensure critical mass of outputs, income and personnel, to sustain vitality and growth.
- To increase meaningful collaboration with external partners and networks locally, nationally and internationally by developing our relationships with providers and

commissioners of health and social care via collaborative working, joint appointments and by maximising opportunities afforded to us via organisations and networks including LHP, ARC NWC, The Innovation Agency and HEE. These collaborations are integral to our impact strategy to support dissemination, embedding and implementation of research.

- To support impact, we will ensure all research projects have a clearly embedded plan to deliver impact and enhance the role of PPIE and co-design in developing, delivering and disseminating research.
- To build further the vitality and sustainability of our postgraduate and post-doctoral community, increasingly based on external funding.

2. People

Excellent research-active staff with strong collaborative links to practice are key to the realisation of our research goals. Our staffing strategy since 2014 has focused on capacity building, informed by a commitment to equality, diversity and inclusion. A key element of our approach is to ensure a sustainable staffing structure; this is evidenced by the distribution of staff returned here: 11% lecturer, 54% senior lecturer, 8% reader, 27% professor (attained through recruitment or promotion).

Recruitment strategy and research leadership

The University has invested significantly in research leadership, enabling us to appoint a reader (**Abayomi**) and five professors (**Austin, Carter, Dey, Sandars, Spencer**). A further professor (**Karkou**) transferred in from another department during the REF period. **Austin** was appointed to the new post of Associate Dean for Research and Innovation, with overall responsibility for Faculty research, and **Spencer** became Director of the HRI, leading development of external and internal interdisciplinary collaboration. In addition to **Jack** as personal chair, **Bray, Brown, O'Brien** have been promoted to personal chairs in the REF period and **Kelly** and **Kaehne** to readerships. Together these colleagues provide research-leadership across the UOA, working with line-managers to operationalise research, engagement, support and interdisciplinarity.

We have also recruited research-active staff at different career stages (**Ashton, Blake, Blennerhassett, Bradbury, Garner, Irving, Jones, Krishnamoorthy, Owen, Peacock, Pearson, Relph, Richards, Stanley, Watmough, Welsby, G. and Welsby, P.**). This list includes people who have previously held personal fellowships – for example, **Krishnamoorthy** and **Irving** held personal NIHR Doctoral Fellowships - **Irving** subsequently held an NIHR Clinical Lectureship.

As part of our research leadership strategy, we support non-professorial staff to become members of Faculty and University research committees; University Research Committee (**Kelly**), Graduate School Board of Studies (**Blake**), Faculty Research Committee (**Peacock**), University Human Tissue Sub-Committee (**Bradbury**), providing valuable experience of research strategy, governance and leadership. Developing research leaders of the future is a key part of our strategy and for our succession planning, evidenced by our internal promotions since 2014 and provision of, and engagement with, internal and external (Advance HE) leadership programmes.

For the next REF cycle, a major strategic focus will continue to be appointments at professorial level to ensure sustainability of research leadership. We will also ensure our recruitment attracts researchers at all levels, including ECRs, to complement or enhance our research clusters. We will establish joint clinical appointments, to further embed research in practice and maintain clear pathways to impact. We will also seek to ensure that our recruitment processes engage as diverse a pool as possible, particularly under-represented groups.

Staff development

Our approach to staff development is guided by the principles of the Concordat to Support the Career Development of Researchers. We aim to provide a supportive environment that promotes wellbeing through appropriate workload allocation, good research planning, and training and development opportunities to ensure that everyone is able to reach their potential. Our collegial team-based approach provides excellent mentor and peer support for staff at all career stages. Our staff-development programme has supported colleagues at various stages of their research journey by maximising benefit from, and the experience and skills of, our research-active staff.

All new staff in the unit undergo an extensive induction programme. This includes individual meetings with research leaders, and staff are assigned an experienced mentor, to provide advice and guidance on all aspects of their academic role and help them to navigate University and Faculty practices, including adherence to ethical practices and open access policies, as well as research opportunities, including internal and external funding, and research support available.

The Faculty uses its established work-allocation process as a strategic tool to support staff to realise their ambitions, and it can also be used to facilitate flexible working to support those with particular needs. Such workload planning is undertaken on an individual basis where research objectives, plans, training and development needs are identified are agreed via the PDR process. The University's Researcher Development Programme provides a range of training opportunities including face-to-face workshops and online modules. Open to all staff, including associate tutors, RAs and PGRs, sessions are customised to the needs of specific audiences, including senior researchers (e.g. Research Governance, Developments in the Research Funding Landscape), mid-career and ECRs (e.g. Boost your Research Profile, What Makes a Good Grant Proposal).

PDR is also the point at which potential applications for University research funds are discussed and encouraged, including conference attendance. The Faculty provides funding for external research training, travel and accommodation for meetings to develop external collaborations, and, where appropriate, short-term associate tutor support for replacement teaching. This complements support from central funds which have been key to supporting the development of research in the Unit: in total, Faculty staff have been allocated over £400k from central funds to support research. These funds can support buy-out of teaching to provide concentrated periods of time for research projects or may cover the costs of RAs to support project development and delivery. Generous University support is available for conference attendance, giving all staff opportunities to present their research, elicit feedback and develop research networks.

All staff included in this submission are on continuing contracts, but we are alert to the needs of fixed-term colleagues (see below). Fractional staff have full access to the resources described above (we appreciate that it is not always possible to make such resources available on a pro-rata basis and we judge applications for conference funding, for example, on merit). We also ensure that fractional staff are able to engage fully in Faculty life by rotating or recording scheduled research activities, including training and development events and research meetings, to facilitate attendance. Fractional staff have the same opportunity to take on leadership roles as other staff (e.g., our chair of ethics has a fractional contract) and are slightly more likely to be identified as Category A submitted (19% submitted against 17% eligible).

Our growing research income underpins an expanding number of RAs and fellows (RF) on fixed-term contracts. In keeping with our commitment to the Concordat, RAs/RFs are fully integrated into the Faculty and have access to all our research and career-development opportunities including those related to PhD study, fellowship applications and postdoctoral research. They are supported by a dedicated RA Tutor (**Carter**). We are currently supporting pre-doctoral RAs to study for part-time PhDs, whilst others have progressed onto full-time PhD studentships at EHU and other HEIs. Post-doctoral RAs are supported, if appropriate, to engage with broad subject and methodological training, obtain teaching experience and to study for the PGCert in Teaching in HE (PCGTHE) to support their employability – our RAs have progressed to postdoctoral positions (including one at Oxford) and lectureships.

Supporting ECRs

Supporting academic staff to progress in research is key to our sustainability and development. Due to the professional nature of our teaching programmes, many staff join us directly from practice; we are committed to supporting their transition to research independence for those who wish become research active. Since 2014, we have supported five staff members to become independent researchers (**Briscoe, Flynn, Kelly, Kiernan, Leadbetter**), with all obtaining PhDs during the REF period, including one who was supported with time and funding to complete a PhD by publication. Currently we are supporting (funding and time) 23 staff members to undertake doctoral study with a further 16 making the transition to research independence as recent post-docs.

From the outset, career planning is encouraged and supported via the PDR process and mentoring. ECRs and all new staff undertake a comprehensive institutional induction programme, which is complemented by Faculty induction. If not already in possession of a teaching qualification, ECRs are expected to undertake the PGCTHE within two years of appointment. Through probation/PDR, ECRs are encouraged to optimise the University's ECR support, including via the priority funding streams to support early scoping, project development and evidence-harvesting work. For example, a one-year internally-funded project led to six published Cochrane reviews. Authors included staff at relatively early stages of their research career, including **Relph**, who went on to lead a Cochrane review.

We have established a research mentorship programme that provides 1-to-1 mentoring with a named professor for postdoctoral staff/ECRs and supports research-career planning and promotion. Our support programme includes peer review of funding applications, writing for publication workshops, a 'work in progress' seminar series to enhance academic criticality and networking opportunities. We hold regular methodological and research-development sessions, including those for ECRs and PGR students. Our research clusters host tailored seminars and research forums, including those by international speakers, to promote research engagement, networking and collaboration. Recently we have amalgamated our research support events into the 'Thursday Research Hour' to further embed them within Faculty culture; these continued on a virtual platform during the COVID pandemic with each session recorded for retrospective access. A Faculty research intranet provides information on support, events and processes. This includes our 'Researcher's Journey' resource to support those at different stages of their research career.

Engagement with practice

Maintenance of strong individual links with clinical practice forms a key part of our research strategy. We stimulate and facilitate exchanges between the Unit and practice in various ways. We have visiting professors from practice including a seconded professor, Rogers (Aintree Hospital), who has worked with us over a long period and is integral to one case study. **Kiernan** works as a Nurse Consultant with the Alder Hey Children's NHSFT where **Carter** is Director of the Children's Nursing Research Unit. **Irving** (0.3 FTE), a GP, currently works part-time in general practice which aligns with his research interests and affords him greater access to research participants. Similarly, **Krishnamoorthy**, a nurse and surgical care practitioner, works on a part-time basis with a secondary care Trust to underpin her work to improve surgical care practice. **Dey**, a Public Health Consultant, has an honorary contract with Public Health England (PHE). We are developing a process to establish joint clinical appointments which will reinforce a mutually beneficial exchange.

The postgraduate community

PGR students are fully integrated into the Faculty and have done much to support the development of our research culture since REF2014. All students have a team of supervisors who provide subject and methodological expertise, with additional training and support offered

by the Faculty to supplement the Graduate School's programme. At census point we have a vibrant PGR community of 21 PhD and 6 MRes students, along with students immediately post-graduate, and Faculty staff undertaking doctoral studies. Significant University investment in GTAs has supported this growth and we have increasing numbers of externally funded PGR students including an NIHR Doctoral Fellowship in collaboration with Alder Hey Children's Hospital NHSFT.

We work closely with our partners to identify suitable research projects based on their priorities to support practicing healthcare professionals to undertake part-time PhD and MRes studies – employer-funded students include staff from Liverpool Women's NHSFT, Alder Hey Children's Hospital NHSFT, St Helens and Knowsley Teaching Hospitals NHST and Liverpool University Hospitals NHSFT. These projects also help ensure benefit and impact of research in the long-term.

We have focused on ensuring comprehensive support and training for our PGR students. Students undergo an extensive induction programme and complete a regularly-reviewed PDP to identify individual training and development needs. Students have full access to our Faculty research-training and development, which includes statistical support (for those students undertaking quantitative studies), as well as methodological and more general research-development sessions (including postdoctoral careers and fellowship applications); sessions are recorded to facilitate access for our part-time students. The Faculty hosts an annual PGR Conference (held remotely during the pandemic) to showcase research and support presentation skills development. GTAs are supported to undertake the PGCTHE which enhances their employability. We provide financial support for national and international conference attendance and external training. We have developed a structured programme to guide and monitor supervisory meetings and training needs which complements annual monitoring of progress by the Graduate School. Additional support during the pandemic included monthly Zoom meetings with our PGR Tutor, as well as supported discussions and sharing of experience with students at other HEIs.

We have increased our supervisory capacity by including ECRs in supervisory teams; the number of staff who have supervised to completion has more than trebled since REF2014. New supervisors are supported by experienced colleagues with PhD completions. Supervisory teams may include staff from other UOAs to support inter-disciplinary research, international staff to encourage global perspectives, as well as practising clinicians to support integration into current clinical practice. Supervisors undergo a mandatory Graduate School supervisor training programme complemented by annual Faculty supervisory update sessions.

Students are supported to publish, during and after their PhD, including publications in *BMJ Open* and *Palliative Medicine*. Hartley (supervisor **Carter**) has been nominated for Innovation Agency NWC PhD student of the Year and **Carter** was identified as EHU PGR Supervisor of the Year (2020). Our students are highly employable, reflected in post-doctoral research positions, and internal and external lectureships, while others have enjoyed progression within clinical practice.

Strategy to ensure equality, diversity and inclusion

The Faculty achieved an Athena Swan Bronze Award (2018) (led by **Peacock**) and delivering the action plan is a standing agenda-item on our formal committees. **Austin** is a founding member of the University's EDI Steering Group and was Chair of the University Athena Swan Steering Group (2015-18) with **Bray**, **Brown** and **O'Brien** as members. **Austin**, **Krishnamoorthy**, and **Spencer** featured in the NHS Research and Development North West 'Wonder Women' series of online videos including personal journeys and challenges, designed to inspire and encourage those considering undertaking health research (<https://research.northwest.nhs.uk/work/film-series-3-wonder-women/>).

We are committed to providing opportunities for all and to support researchers to achieve their potential. The Faculty supports flexible working and part-time contracts, and a number of submitted staff have changed their working hours during the current REF period in light of

changing personal circumstances. Our part-time staff have been able to progress their careers at the same rate: **Bray**, for example, has been part-time since her appointment, has been promoted to professor, and is leading a case-study.

Staff undergo mandatory EDI training and, for those involved in appointments, unconscious bias training. We are mindful, however, that we are not as diverse as we might be and will work with HR to ensure that we are reaching under-represented groups when we recruit. We will also work with our networks to promote EHU to potential applicants; particularly regarding PGR opportunities, since they will be the leaders of the future.

The REF process had EDI considerations at its core. Through applying our REF2021 Code of Practice (CoP), 22% of Category A eligible staff in FHSCM were identified as Category A submitted (39 staff, of whom 36 are being returned to this UOA). Our output selection processes were led by two professors (1F:1M); however, all submitted staff were involved in peer review. This has had many benefits – it introduces staff to each other's work and helps all to understand the REF processes more fully. Staff selected and self-reviewed outputs they wished to be considered for submission; for former staff this was facilitated by UOA co-ordinators. All outputs identified for consideration were peer reviewed internally by at least two members of staff (senior staff and those with subject expertise). Outputs not suitable for this UOA were cross-referred to other UOAs for consideration. External review was used for a random selection of outputs and where there was no agreement on ranking.

All self-review scores and peer review scores were made available on a shared drive to enhance transparency and to support personal development. UOA coordinators identified a long-list of outputs for consideration by REF Decisions Panel, based on ranking, fit with unit's research narrative and to support representation of our submitted staff. Our submitted output attributions are broadly similar to our REF1 profile, except for gender (male colleagues (30% of REF1) are under-represented with 20% of output attributions) and part-time (part-time colleagues (19% REF1) are over-represented with 25% of output attributions); these reflect the career stage of staff in both categories. We were satisfied that the outputs selected are a fair representation of staff demographics.

3. Income, infrastructure and facilities

Research funding and strategies for generating research income

Our income has grown from £1.02m in REF2014 to £1.82m in this submission (78% increase). The total value of grants awarded during the cycle that include Faculty staff is £5.641m. This has reflected our three-point strategy for income generation:

- enhanced staff support for funding generation;
- diversification of funding sources; and
- increasing our involvement in larger multi-professional studies via collaboration.

Enhanced staff support

Support for funding applications is key to our strategy for ensuring the vitality and sustainability of the Unit. This is especially important for ECRs and less experienced researchers who are the focus of our measures. We have hosted a range of external speakers from research funders and support services, including the NIHR Fellowships Programme, Research Design Service NW and the Clinical Research Network, NWC to increase awareness and support understanding of requirements. Staff are supported to develop funding applications via research mentorship and peer review. In particular, we have strategically supported applications to the University's internal funding schemes, with more than 67% of our submitted staff receiving such funds since 2014: this pump primes external funding applications and provides experience of project leadership and management evidenced by **Kiernan** (supported by **Bray**) progressing from an internal funding award, through being a co-applicant on an external funding award, to leading a successful external funding submission (Burdett Trust, £46K). Another element of our strategy is

to support less-experienced staff by developing them as co-applicants on funding applications led by senior staff: e.g., **Knighting** was supported as co-applicant on a successful NIHR HS&DR grant application, led by **Spencer**; while **Blake**, supported by **Carter** and **Bray**, was co-applicant on an NIHR RfPB application led by a clinical collaborator. This is key to our future income-generation strategy and for our growth and sustainability. These projects will produce outputs in the next cycle.

Invited membership of LHP, with financial commitment from the University, allows access to SPARK (Single Point of Access to Research and Knowledge) to provide our staff with further support and guidance including grant application, costings, study set up, dissemination and impact. As new members of LHP we expect the benefits of this to be fully realised during the next REF period.

Diversification of funding sources

In our 2014 submission we reported particular success in undertaking short projects which address local and regional issues; while this continues, our funding now includes major competitive and multi-centre awards including NIHR programme grants (SA3) (£2.7M **Carter** and **Bray**), NIHR i4i (£1.2M, **Carter**), NIHR HTA (£1.7M, **Spencer**, £1.4M **Karkou**). We have achieved this through enhanced networking and collaboration (section 4). Our success includes leadership of major awards; for example, **Bray** is chief investigator on an Innovate UK award (£600,000) and **Spencer** on an NIHR HTA award (£190,000). Our grant capture also includes awards from bodies including charities, e.g., Crohn's and Colitis UK (**Carter**), Scope (**Blake**, **Bray**, **Carter**), British Scoliosis Research Foundation (**Bray**, **Carter**), professional bodies (e.g. The British Dietetic Association – **Abayomi**) and Erasmus funding (**Karkou**). Maintaining close links with practice is key to our strategy and we continue to receive funding from local clinical commissioning groups (CCGs) and healthcare providers (**Dey**, **Jack**, **Kaehne**, **Karkou**, **O'Brien**). It is notable that **Brown** has received continuous funding from HEENW for 18 years; latterly, **Sandars** has also received regular HEENW funding. We have extended our funding during this REF cycle to include that from NHS England (**Brown**, **Jack**, **Kaehne**, **Sandars**) and PHE (**Brown**, **Dey**). During the current REF period we have secured, for the first time, NIHR fellowships at doctoral (**Carter**, supervisor) and postdoctoral levels (**Krishnamoorthy** with **Spencer** as mentor).

Increasing our involvement in larger multi-professional studies via collaboration

Working in larger studies has begun to bear fruit in all the research clusters: e.g. **Carter** and **Bray's** multi-centre NIHR Programme Grant (£2.2M) CASTLE study (Changing Agendas for Sleep, Learning and Epilepsy) is driving forward a child/family-centred understanding of intervention choices for children with Rolandic epilepsy. **Spencer** is co-applicant on UK FROST (United Kingdom Frozen Shoulder Trial), a £1.7M NIHR funded multi-centre trial that recently reported similar outcomes for surgery compared with early structured physiotherapy for persistent frozen shoulder. **Karkou** is co-applicant on a £1.4M NIHR national multi-centre cross-sectoral study assessing the effectiveness of arts psychotherapies for adults with mental health problems. This strategy and working to align our research with funder priorities will continue into the next REF cycle.

Infrastructure supporting research

Our work has been underpinned by >£19m strategic University investment in new facilities. The new Clinical Skills and Simulation Centre (opened 2019 – a £4M refurbishment) provides state-of-the-art facilities for simulation and clinical learning, additional offices for our expanding staff base and dedicated space for our PhD students and RAs. The University has invested £1.9m in facilities at the new Research and Education Centre at Alder Hey Children's Hospital NHSFT. This encourages close research collaboration with our NHS partners and, via adjacent research

facilities, local HEIs, particularly for the Children's Nursing Research Unit (led by **Carter**). This investment directly supports one of our impact case-studies.

We have also benefited from the £13m University investment in the Tech Hub (including £3m from the Lancashire LEP), which houses the Computer Science Department's CAVE (a 4k high resolution computer augmented virtual environment). The CAVE has facilitated collaboration with clinical partners; for example, working with colleagues from Aintree Hospital, **Sandars** and **Brown** have used it to simulate emergency situations in theatre and trauma-bay environments to improve professional practice. The Tech Hub also provides state-of-the-art laboratory facilities, shared with the Department of Biology, which are used by our expanding laboratory-based research staff. Sharing resources in this way stimulates a culture of interdisciplinary enquiry and collaboration. Recently opened (2020) kitchen and food processing facilities (£220,000 investment) help support our growing behavioural nutrition research (**Abayomi**, **Blennerhassett**, **Bradbury**), an area of enquiry which complements expertise in our Department of Sport and Physical Activity.

Technical and administrative support

We have appointed a medical statistician to support quantitative research and our impact RA collates evidence of research impact. Our Faculty Research Support Administration team, which has grown three-fold since 2014, helps identify and disseminate research funding opportunities, planning and delivering events, provides pre- and post-award support and management, and monitors PGR progress. Oversight and monitoring systems Pure (research management), Haplo (ethics) and Figshare (data repository), help underpin the Faculty's strategy to maximise the impact of all its research activity, monitor the progress of projects and ensure informed decision-making regarding resource allocation.

4. Collaboration and contribution to the research base, economy and society

Our overall aims for extending research collaboration and wider external impact since REF2014 have focused on the following:

- ensuring contribution to wider national and international research
- maintaining and embedding our contribution to health care practice
- closer engagement of the public and healthcare communities in our research dissemination of our outputs with wider audiences.

Establishment of the Health Research Institute (HRI)

The development of the HRI has been key to our strategy of enhancing internal and external collaboration as a platform for cross-sectoral multi-disciplinary research, prioritisation and dissemination. The HRI supports staff from different University academic disciplines, including sports science, computer science, psychology, biology, education and business, to work with external colleagues from local, national and international HEI's, NHS and other organisations, to support multi-perspective impactful research. The HRI Steering Group (chaired by **Austin**) includes representatives from NHS trusts, CCGs, public health, local councils and HEE and helps to define our joint research priorities; this includes advising HRI funding awards decisions. HRI activity is guided by the multi-disciplinary Management Group (chaired by **Spencer**) that drives a programme of outreach events, seminars, workshops and knowledge-exchange forums designed to support collaboration, stimulate ideas and increase awareness of the work of HRI members. These have included 'catalyst' events, such as those delivered collaboratively with NHS R&D North West, specifically designed to bring together academic and clinical researchers for project development. As an example, one such event resulted in a new interdisciplinary collaboration between **Dey**, **Relph**, a colleague in Psychology and a local authority Public Health

Consultant which led to internal funding for a project designed to increase our understanding of potential barriers to physical activity in obesity.

The HRI is one of three University research institutes, providing support for inter-disciplinary collaborative research including individualised support for grant application and project development and holds events to facilitate research collaboration. The HRI has supported the development and establishment of our two new research centres, the Respiratory Research Centre and the Centre for Arts and Wellbeing, which provide infrastructure for more focused research in the form of collaboration, research support and administration. The latter has already hosted several events including a launch event for *The Oxford Handbook of Dance and Wellbeing* (**Karkou**, Editor), opened by the CEO of the Arts Council, and an international conference *Arts and Psychotherapy: Emotional Wellbeing and Mental Health*, designed to facilitate collaboration.

The Faculty also works with the University's other research institutes: **Kaehne** was the Associate Director of the Institute for Public Policy and Professional Practice (now the Institute for Social Responsibility: ISR) and currently leads ISR's Evaluation and Policy Analysis Unit. **Karkou** works closely with the Institute for Creative Enterprise to support collaboration between health-related research and creative arts. Faculty investment is in the form of time and finances, support for events, training and development. The annual 'Festival of Ideas' hosted by all three University research institutes includes workshops, lectures and creative events designed to showcase broader research and facilitate collaboration.

Enhancing external collaboration and contribution through research networks and healthcare bodies

We have broadened the footprint of our external national and international collaboration and contribution through membership of research networks and collaboratives and enhanced engagement with health and social care providers and commissioners.

Locally, these partnerships and contributions include board membership of the Innovation Agency NWC (**Spencer**), Wrightington, Wigan and Leigh Teaching Hospitals NHSFT (**Austin**) and Liverpool City Region Health and Life Sciences Board (**Spencer**). During the current REF period we have also been invited to join LHP, the Academic Health Science System for Cheshire and Merseyside, where we support strategy via board membership. We contribute to regional research strategies in a number of ways. For example, **Austin** is a member of the Starting Well Strategic Oversight Committee, an LHP research theme that aligns with the work of our CYPF research cluster, while **Jack** and **O'Brien** are members of Liverpool CCG R&D Strategy Group. LHP has very recently (2020) adopted our Respiratory Research Centre and our Centre for Arts and Wellbeing in recognition of their work and strategic importance in addressing population needs.

We are founding members of SEED, a new partnership of health, care, academic and voluntary sector organisations collaborating to improve the social, economic and environmental determinants of health in Lancashire and South Cumbria, again with Board membership (**Austin**). **Irving** sits on the Governing Body for St Helens CCG and is Lead for Research and Innovation. We are members of NIHR ARC NWC, with a focus on health inequalities, which further strengthens our collaborations with local providers, commissioners and HEIs with **Spencer** leading the Evidence Synthesis Methods Group and **Irving** as deputy lead for the Complex Interventions Research Group.

Increasing contribution to healthcare practice

Influence on guidelines and practice: To maintain external relevance, currency and impact we have ensured our research is embedded in and informed by practice. Our work on carers and end of life care (**Jack**, **O'Brien** – impact case study) has influenced NICE Guidance: Supporting Adult Carers (2020) <https://www.nice.org.uk/guidance/ng150>. Work by **Krishnamoorthy** on endoscopic vein harvesting for coronary bypass grafting has also influenced NICE Interventional procedures guidelines (<http://nice.org.uk/guidance/ipg494>). **Irving's** work on cardiometabolic disorders and treatment has informed American Heart Association Guideline on Primary Prevention

of Cardiovascular Disease, British Hypertension Society Statement on the diagnosis of hypertension in obese patients with large or very large arm circumference, American Diabetes Association and European Association for the Study of Diabetes consensus report on the management of Type 2 diabetes, and Royal College of General Practitioners Fit for future report. Data from the ADDITION-Europe trial, the first randomised trial in a screen detected population with Type 2 Diabetes has been used to inform US Preventative Task force and the UK National Screening Committee policy on screening for Type 2 Diabetes.

Items from the PCI in head and neck cancer have been incorporated into the Macmillan Cancer Support Holistic Health Needs Assessment (impact case study). The work of our research centres is already influencing guidelines and receiving international recognition. Our recent Cochrane series of systematic reviews on bronchiectasis (led by **Spencer**) have informed the British Thoracic Society guidelines for the use of long-term macrolides in adults with respiratory disease, the Australian Asthma Handbook and the Brazilian Consensus on non-CF bronchiectasis; Treatment of nontuberculous mycobacterial pulmonary disease: an official ATS/ERS/ESCMID/IDSA clinical practice guideline). Our research on the holding of children for clinical procedures (**Bray, Carter**) has informed the RCN's (2019) updated clinical guidance – *Restrictive physical interventions and the clinical holding of children and young people* (impact case study).

Our research is informing local, regional and international training and practice. For example, work by **Sandars** and **Brown**, funded by the Difficult Airways Society, with colleagues at Liverpool University Hospitals NHSFT, that focused on training for emergency front of neck access procedures, using a simulated environment, has informed changes to a WHO local surgical safety checklist. Research on performance enhancement and self-regulated learning, led by **Sandars**, and including national (Nottingham, Leicester) and international collaboration (Iran, Brazil) has informed support for struggling students across health professions and is improving prescribing by junior doctors in HEE East Midlands. Work by **Abayomi** on maternal health has resulted in the development of Mamafit, a health, fitness and wellbeing programme for pregnant and postnatal women and families funded by Liverpool Women's Hospital, Liverpool CCG and Liverpool Public Health which has won Liverpool's best bring-along-baby activity in the 2019 Hoop Awards and Merseyside's Favourite Adult class in the 2014 Netmums 'Mums Choice' awards.

Karkou, with membership of the New York University of International Creative Arts Therapies Research Alliance (a research consortium of eight universities – with EHU the only UK member), has recently been commissioned by the WHO to review the evidence base for health benefits associated with arts and arts therapies.

Increasing influence on healthcare professions

As detailed in section 2, we have excellent links with local NHS providers. The Alder Hey Children's Nursing Research Unit (led by **Carter**) has supported more than 14 nurses and allied health professionals (AHP) to study for PGR degrees in this REF period.

The unit also supports research development – for example, a former MRes student progressed to co-applicant on the Crohn's and Colitis UK funded Being Me with IBD Study (**Carter, Bray, Blake**). Indeed, our support for health professional research development extends from supporting successful NIHR internship – e.g., a neonatal nurse specialist which led to co-authorship of a Cochrane review (supervisor **Spencer**) – through to individual NIHR fellowship which addresses key issues in practice. We support public health trainees in developing research competence. **Carter** is a member of the Paediatric Pain and Palliative Care Group, established by NIHR Clinical Research Network to support clinical studies.

Staff are supported to maintain clinical currency, membership of professional bodies (NMC, HCPC, GMC, GPhC) and active links with practice.

Increasing contribution to national and international research

Editorial positions and contribution to research governance: Since 2014 our staff have made significant contributions to peer review and the wider research base, including editorial roles for **19** journals demonstrating our inter-disciplinarity and range of expertise: e.g., Journal of Child Health Care (**Carter**, Editor in Chief to 2018), Journal of Integrated Care (**Kaehne**, Editor in Chief), Body, Movement and Dance in Psychotherapy (**Karkou**, Co-Editor), Medical Teacher (**Sandars**, Associate Editor), American Journal of Dance Therapy (**Karkou**, Editorial Board), PLOS One (**Spencer**), British Journal of Midwifery (**Briscoe**, Editorial Board), Nurse Researcher (**Jack**, Editorial Board), Cochrane Airways Group (**Spencer**), Cochrane Dementia and Cognitive Improvement Group (**Spencer**), Comprehensive Child and Adolescent Nursing (**Carter**, International Editorial Board member), British Journal of Neuroscience Nursing (**O'Brien**), Journal of Pharmacological and Toxicological Methods (**Austin**, Editorial Board), International Journal of Medical Education (**Sandars**, Editorial Board), Education for Primary Care (**Sandars**, Editorial Board), Child Health Nursing Research (Official Journal of Korean Academy of Child Health Nursing) (**Carter**, International Editorial Board). Staff regularly review for a wide range of journals and grant awarding bodies including NIHR, ESRC, MRC and are involved in funding panels: e.g. **O'Brien's** membership of the NIHR North West RfPB panel and the MND Association Health Research Advisory Panel, and **Karkou's** membership of the British Association of Drama therapists grant panel.

Since REF2014 staff have acted as external examiners for more than 50 PhDs. Staff also contribute to PhD supervision at other universities; for example, **Carter** for NIHR PhD studentships at the universities of Liverpool and Plymouth, while **Karkou** and **Dey** are involved in international PhD supervision (Finland, South Africa, USA). We contribute to research governance of other funded studies: e.g., **O'Brien** as Chair of the Data Management & Ethics Committee for the NIHR funded Commend Study (feasibility study & RCT of acceptance and commitment therapy for people with MND).

Leadership: The examples below highlight our significant contribution to leadership of national professional and research bodies. **Carter** is President of the Association of British Paediatric Nurses. **Krishnamoorthy** is President of the Association of Cardiothoracic Surgical Care Practitioners (UK) and National Chair of the Nursing and AHPs section of the Society of Cardiothoracic Surgery (GB & Ireland). She is National Research and Educational Lead for Nurses and AHP's for the Royal College of Surgeons (Edinburgh). **Abayomi** is Chair of the British Dietetic Association Board. **Kelly** is a member of the Executive Committee of the Association of Respiratory Nurse Specialists and founder and Chair of the Respiratory Nurse Research Consortium. **Jack** has been Chair of Palliative Care Research Society, **Brown** Deputy Chair for the Association for the Study of Medical Education (ASME) Research Committee and **Sandars** External Education advisor to the Royal College of Paediatrics and Child Health's Education and Training Quality Committee. We influence research priorities and strategy via membership of steering and advisory groups. For example, **Bray** is a member of the RCN Research in Child Health Nursing National Steering Group and **Carter** is a member of the NIHR Clinical Studies Group on Paediatric Pain and Palliative Care. **Knighting** is a member of the national Hospice UK research advisory group and **O'Brien** is a member of the UK MND Clinical Studies Group. **Irving** has been a member of the UK National Screening Committee and the NICE Medication technology Committee.

Internationally, **Kaehne** is President of the European Health Management Association. **Karkou** sits on the Steering Group for KenVaK, an international arts therapies research centre and on the Advisory Board for the International Centre for Research in Arts Therapies that is based at Imperial College. **Sandars** is co-chair of the Technology Enhanced Learning Committee of the Association for Medical Education in Europe (AMEE) and Panel Chair of AMEE's ASPIRE award for excellence in Technology Enhanced Learning.

Recognition and awards: Our work has been recognised by awards including those relating to impact on clinical practice. For example, the DETECT Study (NIHR i4i, £1.2M) (**Carter**), which is evaluating an electronic physiological surveillance system for detecting clinical deterioration in children, won the Patient Safety award at the Innovation Agency NWC 2020 awards, The Most Promising Solution in the Health Tech Awards 2020 and was highly commended in the

'Deteriorating Patients and Rapid Response Systems' category in the 2020 *Health Service Journal* Patient Safety Awards. Our *Children Coming to Hospital*, *Telling My Friends* and *Communicating Lily's Pain* resources (**Bray, Carter**), which include comic strips and animations, have been endorsed by the RCN in recognition of their value to clinical practice. The work of **Watmough** on pharmacist-led feedback and prescribing errors showcases an example of close collaborations between the Faculty and St Helens and Knowsley Teaching Hospitals NHS Trust. It received the 'Taking Research into Practice' award in the 2018 NWC Research Innovation awards, an 'Excellence in Pharmacy Practice' award at the Clinical Pharmacy Congress Awards (2017) and was shortlisted for a Health Service Journal UK Patient Safety Award (2017). The work received a Best Paper award (2018) from *Research in Social and Administrative Pharmacy*. **Brown** was awarded the 2015 'Excellent Medical Education' prize in the Postgraduate Category awarded by the ASME and GMC for his work on trainee engagement with E-learning.

Krishnamoorthy has been awarded Fellowship of the Faculty of Perioperative Care, Royal College of Surgeons (SCTS), Edinburgh, the first woman to obtain such an award for research and teaching in cardiothoracic surgery in GB and Ireland, and has recently been awarded an SCTS lonsecu research travel fellowship. She currently holds a personal NIHR postdoctoral fellowship. **Carter** is a Fellow of the RCN. Her standing in the field has been recognised by her inclusion in the recent RCN publication *Advancing the Science and Practice of Nursing: a collection of articles by fellows of the RCN to celebrate the international year of the nurse and midwife 2020*. **Irving** is a Fellow of the Royal College of General Practitioners.

Visiting and honorary appointments: Strong reciprocal academic collaboration is supported by visiting appointments at both UK and international institutions: Visiting/Honorary Chairs include the University of Tasmania (**Carter**), Auckland University of Technology (**Carter**), University of Pretoria (**Sandars**), Riga Stradins University Latvia (**Karkou**), Institute for Hospice and Palliative Care in Africa (**Jack**), University of Eastern Finland (**Kaehne**), University of Liverpool (**Jack**). Our engagement with practice is further strengthened by the appointment of Honorary Clinical Chairs within the Faculty – these include Professor Groves, Medical Director at Queenscourt Hospice, who works with our end-of-life care research group and professors Rogers and Moots who continue to collaborate with colleagues on the PCI via Faculty-funded secondments.

Closer engagement with the public and healthcare communities

We further enrich user-driven research prioritisation through co-designed research and user involvement; this is exemplified by our ongoing work with the Young People's Research Advisory Group at Ormskirk School, who have guided grant applications and research design through an NIHR Research Design Service PPIE engagement award (**Bray**). We have a dedicated Family Engagement Officer funded through an NIHR Programme Grant (**Carter, Bray**). We have a well-established Faculty Service User and Carers Group who engage in all aspects of research design with **Knighting** as research lead.

We use a wide range of approaches to dissemination and public engagement to ensure our research is accessible to external audiences, including children. For example, in our programme of children's pain research, **Carter** works with leading writers, directors, animators, dancers, practitioners, lay champions, charities, parents and children to understand and support chronic pain. This includes the Somatic Practice and Chronic Pain AHRC-funded network. Supported through partnership with Tate Liverpool, Concurrent #3 (led by **Karkou**), a week-long event on participatory arts and wellbeing to showcase research findings and support impact, included our programme of work on creative and arts-based methods within research (**Carter and Bray**), while *The Mother of All Pain* is an example of a partnership between our academics (**Carter**), writers and performers.

In conclusion, our submission evidences significant development since 2014 in the quantity, reach and significance of our research. We have enhanced research capacity and capability of our staff to ensure long-term sustainability and developed our research environment and resources to support staff at all career stages. Our collaborations and partnerships have helped to maximise our contributions to research and society. We will build on this success to develop

further our thematic research and our staff support. We will continue to maximise our collaborations to ensure our research is embedded in practice and has impact locally, nationally and internationally.