

Institution: University of Northampton
Unit of Assessment: Public Health, Health Services and Primary Care (UoA2)
<p>1. Unit context and structure, research and impact strategy</p> <p>1.1 Unit context and structure</p> <p>Sustaining high quality research with significant national and international impacts is a key aim for Health staff. Major research specialisms relate to Health Research Across the Life-course and Dementia. Health Research Across the Life-course incorporates risk and early diagnosis, for example early diagnosis of childhood illness, and educational interventions in Public Health, including perceptions of cancer risk and associated interventions. Our Dementia research focusses on early diagnostic criteria, young people with dementia, evidence-based practice of community post-diagnostic support groups for people with dementia and caregivers. Our research is underpinned by values and commitment to ensuring that 'voices' of lesser heard groups are central to the health/social care research and service-delivery.</p> <p>This is the first time that the University has submitted to UoA2, reflecting significant strategic investment to Health-related research and associated outcomes. In REF2014, our Health research was situated within a cross-university research institute. Following a University restructure, this institute was migrated into a dedicated Faculty Research Team, who also oversee the Faculty management of research degree students, ensuring they are embedded into our research activities. This restructuring has been a positive one for Health, resulting in a more coherent research environment and strategic vision.</p> <p>Four new Research Centres were established within the Faculty covering a diverse number of specialisms, reflecting the research expertise and interests of Faculty staff. Research for Health is driven through two of these centres, the Northampton Dementia Research and Innovation Centre (NDRIC, led by Parkes) and the Centre for Health Sciences and Services (CHSS, led by Ward). Both have a strong focus on inter-disciplinary work, collaborating extensively with colleagues across the University in other research centres such as The Centre for Physical Activity and Life Sciences (PALS), and the Centre for Educational Research (CER).</p> <p>NDRIC's key focus is to create and develop partnerships with all stakeholders actively engaged in the dementia sphere such as people with dementia and carers, health and social care providers, voluntary organisations and students. This includes designing, developing and researching contemporary, community-based early interventions looking at economy, efficiency and participant satisfaction that then act as a blue-print for similar community-based interventions nationally. Strong links have been developed with similar academic and care organisations internationally, primarily in Denmark and Norway, and active international research projects are informing practice, particularly in educational activities for people with dementia.</p> <p>The CHSS builds on established local, national and international partnerships delivering interdisciplinary, collaborative, high quality health-related research to advanced knowledge designed to improve the health of the population. This includes research on educational programmes to promote early intervention in breast and gynaecological cancer, cancer risk information in general practice, epidemiological research on the relationship between radon exposure and multiple sclerosis, parental decision-making prior to admission to hospital with sick children, and end-of-life beliefs and practices in Black, Asian and Minority Ethnic (BAME) communities.</p> <p>1.2 Unit research and impact strategy</p> <p>There is considerable evidence of positive step changes in health research culture, strategy, capacity, funding and impact. Staff range in expertise and experience, spanning from senior professorial colleagues, to (predominantly) early/mid-career researchers (ECRs and MCRs), who</p>

are new to research and Post Graduate Research (PGR) students. From 2014 we have cultivated a strong research culture within Health. This is shown through the development of t research centres as noted above. Since their inception, we have demonstrated achievements against the objectives as set out in NDRIC (2017-2020) and CHSS (2018-2021) Operational Plans and the University Strategic 'Social Impact' Plan (2015-2020). Our overall strategic aims for this period were to support research active academics, to further develop research collaboration, and enhance publication activity.

1. To support research active academics, with a particular focus on ECR development

Focused investment in researcher development since 2014 has been extensive. The Faculty has supported 11 staff within Health to complete their doctorates during the REF period, at a cost of GBP147,840. Their programmes of study have been built into Personal Development Review (PDR) objectives and subsequently tailored support has been made available as part of our development programme for their continued progression towards becoming independent researchers. These staff will be supported to progress their research careers through the Researcher Development Plan, outlined in section 2.1.

ECRs have been supported in particular through pump-priming with seed-corn funding being made available for projects to support individuals or groups to undertake small research projects, developing concepts and building evidence to support future larger grants and outputs. An example includes a project to explore the use of drama and arts practice with people with younger onset dementia, this enabled an evidence base to show a limited engagement with this cohort in drama practice and associated researcher in this field. This has led to a new partnership with Derby University and the development of a bid to fund a joint research project.

An institutional commitment to invest in 'Teaching & Research' (T&R) contracts has provided all colleagues with additional time allocated to research and scholarship activities. The multidisciplinary Faculty structure provides a strong, consolidated infrastructure for our peer review process, research support, governance, impact enhancement and public engagement. As part of our move to the new Waterside campus, academic workspaces were built to facilitate collegiate dialogue and Faculty research and enterprise planning has significantly increased opportunities for interdisciplinary research discussions, project development, and researcher development.

2. Grow capacity through the development of international networks and collaborations

International travel to develop networking and dissemination is encouraged and supported. Staff regularly present at local, national and international conferences and their research has benefitted from the award of international fellowships (e.g. **Ward** via Winston Churchill Travelling Fellowship, **Neill** via Florence Nightingale Foundation, **Baross** Wellcome Trust Summer Vacation Scholarship (on two occasions)), travel grants (e.g. **Campbell** and **Ward** via Santander Staff Research Award) and Erasmus+ mobility grants (e.g. **Campbell**, **Parkes**, **Pyer** and **Ward**). Where necessary these have been part funded by the Faculty.

Staff have international national and local partnerships and are integral members of strategic and professional bodies, including membership of INTERDEM (a European multi-professional group of dementia researchers: **Parkes** and **Ward**), Regional Advisory Board Chair of the East Midlands Research Design Service (**Campbell**), Deputy Chair of the Young Dementia Network Research Workstream (**Parkes**), UK Research Collaborative Committee for the International Family Nursing Association (**Redwood**). Staff have developed local partnerships through active engagement on boards and committees, for example, they contribute to five Special Research and Innovation Groups (SpRInGs) established by Northamptonshire Healthcare Foundation Trust (NHFT), represent the University on local Research Ethics Boards (for example at Kettering General Hospital, and for the Health Research Authority), and lead the Northamptonshire Dementia Action Forum. They also deliver research training and support for Northampton General Hospital's

Director of Nursing Research Fellowships. We work closely alongside the County's Health and Wellbeing Board which has our Vice Chancellor as its Chair.

We collaborate with multidisciplinary colleagues at other HEIs and multi-professional practitioners in diverse regional, national and global contexts. Staff development and research seed corn funding has enabled colleagues to extend – and particularly internationalise – our networks of research collaborators and beneficiaries. All the major research funding successes e.g. from EU Erasmus+, Cancer Research UK, Santander, National Institute of Health Research, Alzheimer's Society, Health Education England Thames Valley, NHS England and Motor Neuron Disease Association, have arisen from this support for colleagues' work to develop leadership and co-investigator roles within diverse, international, interdisciplinary networks.

3. Enhance the publication activity arising from health-related research

Our outputs regularly impact on practice, e.g. interventions with parents about when to take unwell children to hospital (PI **Neill**), interventions to alert women to the signs of gynaecological and breast cancers (PI **Campbell**, Co-I **Pyer**) and a walk-in chest X-ray service for people with a persistent cough (PI **Campbell**, Co-I **Pyer**). Our interdisciplinary, participatory Cyber Safe Generation: Digital Education by Design (CyGen) research with children and educators identified a range of ways that families, schools and practitioners in health and social care can support children to remain safe and well, whilst also observing the benefits of using the online world (Co-I **Pyer**). Funded by Erasmus+ (EUR266,652), it was circulated as a best practice case study, illustrating the quality and impact of our interdisciplinary approach. A research team comprising staff from the UoN (**Campbell** and **Ward**), University of Cambridge and the National Institutes of Health (NIH) in the US has just produced a UK-specific tool for the identification of cancer risk perception which will enable further public health research relating to the prevention of common cancers.

1.3 Future research aims and objectives

The strategic ambitions for research mesh with the wider Faculty of Health, Education & Society's (FHES) strategic vision to enable 'impactful research and enterprise to advance excellence in health, education, social care and social sciences locally, nationally and internationally'. An extensive consultative process with colleagues and external stakeholders has shaped the Faculty strategy in relation to research environment and identified four priority areas:

1. Community building and inclusion, in support of ambitious institutional targets for interdisciplinary research bidding and outputs, and equalities and inclusion;
2. Strategic partnerships, supporting colleagues to extending national and international networks of external collaborators and develop new opportunities for social impact, user-involvement and public engagement around research activities;
3. Assuring quality, constituting supportive processes to enable colleagues to enhance quality of research outputs, bids, environments and impacts;
4. Researcher development, sustaining a rich, responsive offer of development opportunities, activities and events for researchers at all career stages.

Activities over the next five years will align with a detailed Faculty implementation plan focused on these areas and supported by four colleagues appointed to specialist cross-Faculty roles mapped to these areas. Existing research partnerships (for example the extension of our Memoranda of Cooperation with our local NHS partners) will be reviewed to establish further joint working opportunities, alongside the identification of additional Visiting Professors and Fellows to further support the development of our research expertise.

1.4 Impact

Impact from research undertaken can be demonstrated in a number of ways. For example, our research into dementia (explored in our impact case study *Improving Social Cohesion*), research on dementia training (Health Education England Thames Valley funded GBP500,000 multi-university research and the Angela Project (Co-I **Parkes**)), has developed a national Good Practice Guide distributed via the Young Dementia Network. At a local level, our researchers have used their findings to design and deliver ongoing support groups for people with dementia and their families. The Forget Me Nots group was set up in 2013 (Co-PI **Parkes** and **Ward**) to provide a normalised social engagement for people with dementia and their families, while the UnityDEM group (2018-2020) provided formal support and cognitive training for people with dementia and a support programme for family carers (PI **Parkes**; GBP70,000 funded by Changemaker and Advancement Funding at UoN and GBP36,000 from innovation funding). UnityDem's model has underpinned NHFT's plans for future dementia care delivery across the county. Annual Memory Days (2016-current) have also been established and provide advice and signposting on issues relating to memory and dementia.

1.5 Open access

In addition to receiving training and support in open access and copyright, staff are trained in research data management paying particular attention to the preservation and reproducibility of research. Datasets are now required to be uploaded to the University's CRIS (Current Research Information System) on submission, enabling checking for replicability and long-term digital preservation. Staff adhere to the FAIR (findable, accessible, interoperable and reasonable) sharing of data, striving to be as open as possible, but understanding when restrictions are required.

Staff have been trained in the selection of the most appropriate places for publication and use tools such as Sherpa/Romeo to check funder copyright requirements. Where possible staff make workshops and key presentations available as open educational resources. The University of Northampton has an institutional fund to cover the cost of open access where the green route is either not available, or the length of the embargo period is prohibitive. Staff are trained and adhere to University level policies in relation to open access, and this is enhanced through regular discussion at Faculty level, hosted by our Faculty Research and Enterprise Committee, which oversees the application of research policy and procedure.

1.6 Supporting a culture of research integrity

All research activity is underpinned by values of integrity, ethical practice, and professional requirement. This is core to our values, meeting the needs of staff, research participants and collaborators, and the participants and stakeholders to our projects. Staff and students are trained by central University teams to ensure that they are aware of the legal obligations relating to their research related activity. All research projects obtain approval from a UoN's Research Ethics Committee (REC) and – where relevant - from the Health Research Authority (HRA) Ethics Committee. Staff involved in research with the NHS are obliged to hold a Good Clinical Practice certificate before recruiting participants for studies and have Honorary Research Contracts with the NHS Trusts involved. The Faculty research team and Human resources support these processes.

Staff members actively engage with the development of University policies and procedures, ensuring that they reflect the requirements of researchers working in Health and related disciplines. **Pyer** participated in extensive cross-university strategic discussions regarding revised ethical policies. As Faculty Research Ethics Committee (REC) Chairs, **Ward** and **Pyer** work closely with the University's Data Protection Officer and University Research Ethics Committee Chair to ensure policies and templates, in relation to research, are compliant with relevant data processing legislation and Health Research Authority requirements. **Pyer** and **Ward** have also developed a modular training programme for REC reviewers, completion of which is mandatory when joining the committee to ensure that values of quality, consistency, constructiveness,

proportionality and timeliness are understood and adhered to. They are also supported to engage with collegial ethical discussions at research centre meetings, and through the Faculty Research and Enterprise Committee.

Staff regularly deliver teaching sessions to undergraduate and postgraduate programmes in Health with a focus on research ethics and integrity. The Health REC has an open-door policy for questions and queries and staff and students are supported through bespoke advice and guidance. In addition, staff actively engage as reviewers of applications (**Campbell, Redwood, Spencer, Parkes, Pyer, Ward and Neill**). A member of our doctoral alumni manages research at a local NHS Trust, and provides annual updates to Health researchers regarding their obligations in line with HRA requirements.

Students enrolled on the Doctor of Professional Practice in Health and Social Care programme (DProfPrac) are expected to maintain the highest standards of ethics and integrity. This begins with a programme of induction focusing on ethics and integrity which are then fed through into each of their research modules. This ensures that their experiences map to a typical PGR students, involving an assessment within the first two years of the programme, including the completion of mandatory research integrity and research ethics courses hosted by Epigeum.

2. People

2.1 Staffing strategy and development

Research expertise and a good record of research outputs have been a key requirement in person specifications for all Health roles. However, candidates' experience of professional and clinical roles has often (and necessarily, given the strong development of taught undergraduate and postgraduate provision in Health at the University) taken primacy during recruitment. The distinctive needs of our staff and strategic investment has been made in academic research skills-development and capacity-building. We have invested resources into supporting staff to study for PhD or a Professional Doctorate including payment of fees, study leave and a flexible approach to timetabling to allow engagement with their research studies. Three have successfully completed their doctorate during the REF period (**Ward, Spencer and Ryan**). ECRs and MCRs have been given opportunities to move into strategic roles, for example acting as leaders/ theme leaders within Faculty research centres (e.g. **Ward** as centre lead of CHSS from 2019). Staff have also progressed in their careers, with **Parkes** being promoted to a Professor, **Neill** and **Redwood** becoming Associate Professors, **Pyer** and **Ward** promoted to Senior Researchers, and **Spencer** joined the institution as a PhD student and successfully obtained a substantive academic post after her successful completion. We feel that these continuing links with those who have previously completed our programmes significantly enhances the experience of ongoing students, and our alumni are key assets to enhancing our research agenda.

Researcher development is principally managed and audited through the University's PDR process. Individual objectives and key performance indicators are agreed annually with line managers and appraised after six and twelve months. Within Health, a suite of research objectives have been developed to support engagement of staff at all stages of their research career, whilst also supporting line managers in their roles. All colleagues on T&R contracts have research-focused objectives via their PDR and a wider goal of supporting more teaching-focused colleagues to become research active. Through the PDR, individual research training needs are identified and plans made for dedicated 'research and scholarly activity' hours. The Faculty Research Leader and central research team are also responsible for mentoring colleagues at all career stages. The Research Leader meets with all new appointments in Health as part of their induction to signpost Research Centre themes, make connections to those with shared interests, and set research-related milestones for the probationary period and beyond. Our research Centres provide a focus, network and support structure for all research active staff, PGRs, and colleagues seeking to develop research skills within Health.

The Researcher Development Plan (RDP) for Health aligns to the VITAE Researcher Development Concordat, offering set standards of support for research career development, linked with reciprocal expectations. The purpose of the RDP is to assist staff in delivering against key research metrics, in relation to scholarly outputs, PGR enrolments and research income. It also enables us to develop our future research capacity and underpin our innovation activity. The RDP is available to all staff, PGRs and student alumni across the Faculty, as well as external stakeholders, strengthening our research culture and environment. There are more than 20 core focused workshops run on a range of topics to suit each of the different stages of career that we have within the unit (e.g. planning impact into your research, publishing in academic journals, navigating the peer review system, accessing National Institute for Health Research (NIHR) funding, and understanding statistics).

The RDP offers a range of community-based activities offering support to staff (with a focus on ECRs), PGRs and PGR alumni at any stage of their research career, including:

1. Research newsletter: including articles on current/ completed research, submitted bids, and best practice examples embedding research into practice.
2. Research centre engagement and open days: To support staff and PGRs to align themselves to a research centre, open days/ informal meetings are regularly held with Centre leads.
3. Mentoring: A mentoring scheme is available to staff. Selection of a mentor is undertaken on a case-by-case basis based on the objectives of the mentoring relationship which are defined at the outset with the individual seeking mentorship.
4. Each Research Centre produces their own programme of research-related activities, of research seminars and networking events: research centres host a researcher development programme which combines workshops focussing on skills, alongside seminars on current or completed projects. This includes the externally facing Café Scientifique events and internal Lunch and Learn seminar series.
5. For those new to research: Open evenings focussing on research degree study are hosted regularly to act as an information point.

Subject groups are actively encouraged to include research and enterprise engagement of staff and students in all planning activities. Finally, a dedicated virtual learning environment has been created with up-to-date information about research processes/procedures to ensure all staff have easy access to information to support their research and enterprise activities.

We encourage staff to participate in cross-university supervision teams, strengthening networking and interdisciplinary working across the institution. Health staff are required to complete the Research Degrees Supervision programme, with eight having completed or working towards a full postgraduate certificate. All staff involved in recruiting to Research Degree programmes have undergone University Equality and Diversity training.

2.2 Postgraduate research students

In the current REF period 28 Health PGRs have completed level 8 study, which includes those pursuing the traditional PhD route and the Doctor of Professional Practice (DProfPrac). Our PGR programme recruit two cohorts per year (March/October), whilst our DProfPrac recruits approximately every 18 months. The timings of these recruitment cycles ensure that we have the staffing and supervisor capacity to provide an excellent student experience which was reflected in our recent Postgraduate Research Experience Survey results. Our DProfPrac has recruited four student cohorts (18 completions and 20 ongoing students to date). Students of the programme are all senior health and social care professionals.

Student support and monitoring structures are designed to offer potential applicants relevant and timely support from enquiry to post-graduation. We strive to strike a balance between ensuring students are adequately supported, whilst enabling them to develop their academic independence and confidence. Open evenings are offered at pre-application stage, hosted by **Pyer** and

Campbell, offering an overview of programmes, enabling applicants to hear the experiences of former and current students. The marketing of our PGR programmes is diverse in its approach. It has been integrated with other Health postgraduate marketing. This has offered greater reach to a wider range of potential applicants. All potential applicants to Health PGR programmes are offered sessions with the admissions tutor (**Pyer**) at their initial contact. These meetings enable tailored advice to be given in relation to support needs, previous experience and qualifications, and expectations/potential barriers to study. Interviews for PGR programmes are held flexibly in terms of timing and mode of attendance.

Upon entry PGRs are aligned to the relevant research centre depending on specialism. Most of our PGR students are studying part time so we work towards delivering centre activities flexibly. Café Scientifique, for example, is delivered in the evening. Based on feedback from our DProfPrac students, we run facilitated module days on different days of the week each time, ensuring that where one student has, for example, a regular clinic, they are not disadvantaged in terms of their learning.

Pyer (as PGR Leader for Health and Society subject areas), instigated a new process of monitoring of PGR supervisions. A review of supervision meeting reports is completed three times per year and check-in emails sent to supervisors and students who have not logged the required frequency of meetings. This approach has received positive feedback from across the University. This process ensures regular contact is made with students and supervisory teams throughout the academic year by someone independent of supervisory teams, enabling support to be put in place in good time should any challenges have arisen. This approach compliments the regular review of student progress completed by our subject specific Research Degree Boards. Subsequently our approach has been adopted across the University as best practice. Students at the modular stage of our DProfPrac award are allocated a Personal Academic Tutor who offers regular pastoral check-ins throughout the first two years of their study, working with candidates to further ensure an excellent student experience, and signposting them to additional University support where necessary, for example the University's Additional Student Support and Inclusion Services Team (ASSIST) team, our academic librarians and our counselling service.

Within Health, alumni from our research degree programmes regularly engage in Faculty bidding activities and offer guest teaching on development sessions or on the DProfPrac modules. They participate in the mentoring of current students and one DProfPrac alumni has held an extended contract at UoN including leading modules on the programme.

PGR's satisfaction with our extensive support programme can be seen with the University ranking 1st in the 2020 Postgraduate Research Experience Survey, up 3 places from 4th in 2018. In the 2019/20 PRES results, 91% of students taking the survey were satisfied with their research degree experience. At a subject level this is further reflected with 83% of Health PGRs being satisfied with their course compared to the 81% national average.

2.3 Equality and diversity

There is a strong tradition of critical and inclusive practice within Health. Opportunities to engage in research are openly shared through communications across the Faculty and through the research centres. Regular consultations invite all staff to share their views on strategic and procedural research related issues. One example of this is a consultation undertaken by CHSS to review its aims. All staff across Health were invited to a participatory session to explore strengths of CHSS and ways to support the Centre's growth and development. Despite the diversity of roles in terms of participants of the consultation (academic and administrative, as well as researchers at a range of different stages of their career), there was a great deal of agreement regarding vision and approach that the Centre should take.

The appointment of Research Centre Leads follows a transparent selection process and is reviewed on a three-yearly basis (unless significant external or internal events require a more frequent review). This ensures a continuing fresh approach to how research and enterprise is

developed within the Faculty, and the widening of opportunities for new and developing members of staff. Applicants to Centre Lead posts are normally expected to be Professors, Associate Professors or Readers, supporting the provision of a career path for more senior or experienced members of staff.

Both research centres have a strong ethos of public and patient involvement (PPI), delivering research in partnership with people. CHSS has PPI representation on their membership and projects teams are strongly encouraged to access support for projects through the Health PPI Forum run centrally by the Faculty. PPI forum members are regularly involved in the development and delivery of research, with one member currently undertaking a doctorate to explore involvement in primary care, and one member developing a research project to explore the impact of culture on mental health care in the BAME community. To ensure PPI is embedded in our work, dedicated training has been developed (**Parkes**, 2013) for face to face and online delivery (**Parkes**, 2019). This training has been made available and adapted for individual project PPI teams (for example **Sixsmith** and **Ward**) and has been embedded within nursing curriculum.

In addition, many colleagues participate in a growing number of colleague-led institutional support and advocacy groups such as the BAME Staff Network, LGBTQ+ group and Staff Disability Network. Colleagues have also benefited from the University's Navigator (men and transmasculine) and 'Springboard+' (women, trans and non-binary) staff development programme for colleagues in academic or professional services roles which provides an opportunity for staff to undertake personal and professional development and support for leadership, goal-setting and strategic visioning skills. Staff have also benefitted from the University's leadership programmes, including 'The Changemaker Fellowship Programme', providing a year-long leadership training alongside volunteering activity to support and build inclusive and caring communities.

Additional support is offered to our PGR students through the ASSIST team. PGR supervisors are regularly updated about the support that ASSIST offers and are well-placed to ensure students are made aware of these. The PGR leader for Health also actively engages in discussions with students and ASSIST team members where support is required, offering a form of advocacy in sharing the needs of research degree students. The Nursing subject team have a strong strategic partnership with Mental Health First Aid (MHFA) England, and train both students and staff across the University, feeding into our organisational Wellbeing Community. Our full course has been delivered to over 120 staff, and 1,000 students across the institution, including PGRs. Research staff (**Ryan** and **Ward**) are integral members of the University's Wellbeing Community, which develops and promotes initiatives that support staff and student wellbeing. Research underpins this work, through evidence bases and evaluation of projects.

Staff benefit from University-wide support for their needs through, for example, our Employee Assist scheme. Within Health specifically, staff are also supported through the Faculty administration team, with reasonable adjustments made to support their work, for example: through the provision of lumbar support chairs, transcription software, and screen adjusters allowing them to engage in research activity productively.

3. Income, infrastructure and facilities

3.1 Income

Over the REF period GBP1,034,696 of external funding has been awarded to Health. This is a significant amount taking into consideration the number of ECRs. Colleagues have been successful as Principal- and Co-Investigators on a wide range of large-scale, externally funded, collaborative research projects. Areas where we have been particularly successful are through international partnerships which have led to successful funding through the Erasmus+ funded international project CyGen (**Pyer**), the establishment of a dementia lifelong learning collaboration with Denmark and Norway (**Parkes** and **Ward**), the development of balance board early identification of dementia with Italy and Australia (**Campbell**), exploration of childhood illness in Sweden and Finland (**Neill**), and isometric resistance training and the effects on resting and ambulatory blood pressure with Canada (**Baross**).

Centre and individual objectives have specifically focused upon extending research networks, with success evidenced through joint projects with other universities, businesses and the voluntary sector. The Dementia Academic Action Group (**Parkes** and **Ward**) was a collaboration with the Universities of West London, Oxford Brookes and Bedfordshire to develop, deliver and research dementia awareness training for health and social care professionals, and the Angela Project (**Parkes**) which was a joint collaboration with the Universities of Bradford, Northampton, Surrey and University College London, and in partnership with Dementia UK and YoungDementia UK, to look at post-diagnostic support for people living with young onset dementia. Other examples are: work in cancer risk identification with University of Cambridge and National Institutes of Health (USA) (**Campbell**), and research to develop resources to help families with young children understand signs and symptoms of acute illness in collaboration with University College London, University Hospitals of Leicester NHS Trust, University of Oxford, Whittington Health and University of Cambridge (**Neill**). We have been successful in tendering for substantive research and consultancy projects from diverse national and international funders including: Erasmus+, Wellcome Trust, Cancer Research UK, Alzheimer's Society, Motor Neurons Disease Association, Rennie Grove Hospice Care, WellChild and Health Education England Thames Valley.

We want to celebrate the funding successes that have come from ECRs bidding for the first time. These are often smaller scale projects supporting local health care service providers and the voluntary sector, providing our expertise to support evaluation of health and wellbeing initiatives, for example: exploring the wellbeing impact of dance for older people with the Elders Dance Company (**Spencer**); diabetes training evaluation (**Ward**); developing, piloting and evaluating a universal assessment tool for use from pregnancy to 2.5 years of age (**Redwood**, **Spencer** and **Neill**). In addition, where independent researchers are bidding for funding, opportunities are inclusively communicated for ECRs and PGRs to join proposed project teams to enhance their research portfolio. Examples of these include **Ryan's** bid to Wellcome Trust and **Parkes** KTP bid to explore the use of digital cognitive assessment and training for people with mild cognitive impairment.

3.2 Infrastructure and facilities

The University relocated to its new purpose-built Waterside campus in 2018. This GBP330,000,000 investment in infrastructure and facilities have put us at the cutting edge of what campuses can offer researchers. Previously each specialisation had their own area which were segregated from each other. Colleagues now work within new flexible academic workspaces, which are purpose-built to foster collegiate dialogue and community-building within the multidisciplinary FHES. Already there is evidence of dialogue, bid-development and strategic collaborations, for example collaboration with Biosciences staff gives us access to specialist tissue culture, molecular biology, microbiology and biomechanics laboratories. We also have shared use of laboratories in the Institute for Creative Leather Technologies which includes an advanced imaging suite containing fluorescent and electron microscopes. For more clinically oriented research, the University runs its own podiatry clinic and has simulation suites for nursing, midwifery and paramedics, including an ambulance. Other equipment available to staff is a BTE Eccentron, AMTI Force Platform, Monarch Arm Crank Ergometer, and an age simulation suit for simulating experiences associated with frailty. This suit was donated to the Faculty by Health Education

Thames Valley after the successful completion of the Dementia Academic Action Group (DAAG project, 2016), to support ongoing dementia awareness training.

We have had use of equipment external to the university such as **Campbell's** use of the University of Genoa and its University Hospital (L'Ospedale St Martino)'s clinical neurophysiology facilities to record nociceptive evoked potentials (EPs) from patients with pain-related neurological disorders. This work is being extended using the University of Northampton's exercise laboratory to enable the identification of balance mechanism changes in ageing and cognitive decline.

Health staff are supported by consolidated and interdisciplinary Faculty infrastructure for researcher development and research support, peer review, governance, integrity, impact enhancement and public engagement, enabling scaled-up strategic support for researcher development. We have a dedicated research administrator to support staff on all research projects and Faculty accountant to support with proposal development and monitoring successful projects. Further support is available via the NIHR Research Development Service (RDS) who offer annual funding support sessions as part of our researcher development programme. One staff member was seconded to the regional RDS (**Campbell**), and now liaises as the Chair of the Regional Advisory Board and Member of the RDS Expert Panel, enabling close partnership working. Research funding and project development is also supported through connections with research groups, such as the NHFT SpRInGs.

Impact and research focussed training and development opportunities have been delivered through Centre meetings, with invited speakers from across the University. For example, our Research Impact Officer has co-facilitated centre meetings. Our DProfPrac programme Research Leadership module includes a range of sessions by invited speakers who discuss case studies of research impact and host critical discussions on this topic in relationship to research leadership theory and practice.

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

The unit has contributed to the vitality and sustainability of the Health discipline by forming collaborations with multidisciplinary colleagues at other HEIs and multiprofessional practitioners in diverse regional, national and global contexts. This has allowed us to sustain the research activities and income highlighted in sections 1.1 and 3.1. Our research directly contributes to national and international priorities, for example by responding to the Prime Minister's Challenge on Dementia (2015-2020), cancer screening and early diagnosis, and children's health and wellbeing.

A key objective in this period has been to extend – and particularly internationalise – our networks of research collaborators and beneficiaries. This can be seen in our major research funding successes, arising from careful, sustained work by colleagues to develop leadership and co-investigator roles within diverse, international, and interdisciplinary networks. Staff have a wide range of collaborations with HEIs that underpin our research and enhance our outputs and impact. **Campbell** has active partnerships with the University of Genoa (Italy - nociceptive evoked potentials; balance and cognitive decline), University of the Sunshine Coast (Australia - analysis of balance data), La Trobe University, Melbourne (Australia - falls in older people), Cambridge University (cancer risk perception), Manchester University (cancer risk prediction) and King's College Hospital (arterial stiffness and kidney damage). **Parkes** works closely with colleagues from University of Malta, Radboud University Medical Centre, Maastricht University (Netherlands), University College London, Surrey University, Bradford University on the Angela project to explore diagnosis criteria in young onset dementia; Leicester University, and Worcester University on the development of meeting centres to support members of the community with dementia. **Pyer** works with VIA University College (Denmark), UC Leuven Limburg (Belgium) and Huddersfield University, in addition to a consortium of primary schools in participating countries (children's wellbeing and safety online), and Derby University (Pre-nursing care experience). **Ward** has a partnership with University College Northern Denmark (Denmark) and University of Adger (Norway) to develop and research lifelong learning for people with dementia. **Barros**

collaborates with the University of Windsor (Canada) and Greenwich University (Isometric Resistance Training and Blood Pressure). **Ryan** partners with members of the Musculo-Skeletal and Sports Medicine Research Centre at Manchester Metropolitan University and Liverpool John Moores University (relationship between sedentary behaviour, physical activity and cardiovascular markers in older adult population). **Redwood** is a member of the transforming motherhood project with Queensland University of Technology and Office of Health Ombudsman (Australia).

Alongside partnerships with HEIs we have substantial links with external third sector, charitable and private health organisations. We work alongside NHS trusts (**Ward** and **Ryan**), Northamptonshire Healthcare NHS Foundation Trust (**Ward** and **Parkes**), Health Education England Thames Valley (**Parkes** and **Ward**), Leicester and Northampton Clinical Commissioning Groups (**Parkes**), Northants County Council (**Campbell** and **Pyer**), and local mental health charities (**Campbell** and **Pyer**). We partner with health stakeholders as seen with **Ryan's** partnership with the BUPA Retirement Village, **Parkes** links with the Leicester Dementia Action Alliance, Northampton Dementia Action Forum, National Young Dementia Network and National Meeting Centre Support Programmes Reference Group. Staff have also worked with national charities such as the Motor Neurone Disease Association (**Campbell** and **Pyer**) and Alzheimer's Society (**Parkes** and **Campbell**) and industrial partners such as Reproductive Sciences (**Campbell**).

Staff engage with diverse communities throughout their research planning, implementation, dissemination and impact activities. This is evidenced through PPI representation on projects such as Angela with young onset dementia and CyGen with young children. This agenda has been furthered using innovative and creative research methods that have been designed to be inclusive and enable lesser heard voices to engage in research (**Ward**, **Pyer**, **Spencer**, **Neill**, **Sixsmith**). Our PPI work is embedded through the close working relationships we have built with the Faculty PPI Forum: members attend Centre meetings, undertake research, and support strategy development. Staff also work closely with local organisations to develop an evidence base that support their future funding and delivery (e.g. **Spencer's** work with Elders Dance Company evaluating an intervention to keep older people moving; **Pyer** and **Ward's** work with Silhouette Youth Theatre Company exploring youth theatre's impact on wellbeing aspirations of young people). The applied research that we conduct has led to the creation of a number of public facing services and groups, based on the needs that our projects identify. This includes our annual Memory Days, Forget Me Nots social group for people with dementia and their caregivers and University wellbeing days for staff and students.

Staff have taken on wider roles contributing to the sustainability and vitality of the discipline. **Parkes** was invited to be the Chair of the Dementia Academic Action Group from 2014-16; a role which attracted additional funding. She was also invited to represent the nursing community on the Royal College of Psychiatrists review of Young Onset Dementia in Mental Health Services in 2018. **Redwood** is a forum member for the Royal College of Nursing's Children and Young people. **Campbell** has been a member of numerous grant awarding bodies such as NIHR, Nuffield Foundation, Dunhill Medical Trust, College of Occupational Therapists and Scottish Executive Health Department. **Campbell** is also a reviewer for the NICE guideline department. **Campbell** is both a chartered statistician (Royal Statistical Society) and chartered Physicist (Institute of Physics). **Parkes** has been on the editorial board of the *International Journal of Community, Work and Family*. She has also been a reviewer for the Alzheimer's Society Grant Awarding Programme; the NIHR HS&DR and RfPB programmes. She is also an External Reviewer for the MSc in Aging and Dementia, University of Malta; and an invited editorial member for the *International Institute of Aging Journal*, Malta. **Campbell** is a member of the statistical review panel for *The Lancet* and associated journals and on the international advisory board for The Foot (*International Journal of Foot Science*). **Pyer** is an editorial board member for the *International Journal of Therapy and Rehabilitation*, has reviewed for funding bodies such as the Big Lottery, and has acted as expert reviewer for a rapid evidence review on Mobility, Disability and Transport for NatCen Social Research. We have also won a fellowship over the period with **Ward** (2015) being awarded a Winston Churchill Memorial Travelling Fellowship.

Staff have also held invited speaker and keynote positions at prestigious conferences such as **Parkes** to the Solicitors for the Elderly National Conference (2017), the Young Dementia Network Research Network Event (2019) and the UCL Young Dementia Conference (2019), **Sixsmith** to the Third International Summer School on Ageing in Santiago (2016) and invited speaker to the 69th Annual Scientific Meeting of the Gerontological Society of America (2016), **Neill** at the Building Children's Nursing for Africa Conference Foundations of Evidence (2015), and **Ward** was invited speaker at the Caritas Social Action Network Aging in an Inclusive Society seminar (2016).