

Institution: University College of Osteopathy
Unit of Assessment: A3 Allied Healthcare Professions, Nursing and Dentistry
<p>1. Unit context and structure, research and impact strategy</p> <p>1.1 Overview: This environment statement describes the impact of UCO research within the osteopathic profession and in collaboration with colleagues in related healthcare fields. It is submitted alongside two case studies which present portfolios of research which has strengthened awareness and implementation of evidence-informed practice, and developed research literacy and skills to support safe, effective manual therapy for patients with musculoskeletal conditions. The British School of Osteopathy (BSO) was founded in 1917 and became the University College of Osteopathy (UCO) in July 2017. It is a small, specialist, higher education institution (HEI) with a mission to deliver osteopathic education and research to support musculoskeletal healthcare practice. Business enterprise includes a Patient Outpatient Clinic, Continuing Professional Development (CPD) courses, and validation of awards with five Higher Education Institute (HEI) partners. Master of Osteopathy (MOS) degree courses are provided for approximately 400 students on 4-year full-time or 5-year part-time pathways, with 2-year pre-registration MSc degrees for small cohorts of students with prior healthcare qualifications. Graduates apply to register with the General Osteopathic Council (GOsC), the professional statutory regulatory body in the UK and UCO qualifications are recognised in Australia, New Zealand and parts of Europe. Postgraduate courses include Certificates in Paediatric Osteopathy, Osteopathic Care of Animals, and Academic and Clinical Education. A PhD programme planned in collaboration with the University of Bedfordshire builds on the Professional Doctorate which ran from 2010-2020. To promote sustainability, the UCO is currently diversifying its' educational portfolio with a BSc. (Hons) degree in Nutrition and Professional Practice awaiting accreditation by the Association for Nutrition.</p> <p>1.2 Institutional development: The UCO achieved significant academic milestones in recent years including gaining Taught Degree Awarding Powers (TDAP) in 2017, the only osteopathic educational institution (OEI) in Europe to do so; gaining 'University College' status, a title protected under law; and a TEF Silver award in the Teaching Excellence Framework (TEF) in 2018. To raise public awareness of osteopathy and offer university level, practice-based learning for students, the UCO provides accessible, affordable musculoskeletal healthcare and rehabilitation services to the local and wider community. The teaching clinic delivers around 35,000 appointments per year and is founded on the belief that osteopathic healthcare should be accessible to all. Many treatments are delivered free of charge both on-site and in a range of easily accessible, off-site community clinics. In July 2020, the UCO employed 131 academic staff, mainly part-time clinicians with multiple managerial, administrative, and educational roles, plus six category A research staff who have all been submitted in this first application to REF. In 2020, a major workforce change management process was instituted to increase the proportion of full-time staff and clarify work force expectations. It is anticipated that the changes will increase capacity for research (e.g. grant applications, project management, publication, dissemination of findings, impact activities and postgraduate student supervision), and are aligned with strategic plans to achieve Research Degree Awarding Powers (RDAP) by 2032.</p> <p>1.3 Healthcare context: Osteopathy in the UK is an allied healthcare profession which has evolved since statutory regulation in 2000 and formal recognition by NHS England in 2017 as one of 14 Allied Health Professions. Most of the 5,400 osteopaths in the UK work in private practice (81%) and treat approximately 30,000 patients a day; mainly adults (87%) with musculoskeletal pain (81%, with 5% paediatric patients and 13% under 20 (Fawkes et al 2014)).</p>

Nine osteopathic educational institutions (OEs) are accredited by the GOsC, but the UCO is the only one with independent TDAP. Historically, osteopathic research focused on assessing the effect of biomechanical treatment on physical dysfunction. UCO research, however, has been instrumental in shifting the professions' focus towards biopsychosocial models of care, and research staff have been involved in developing guidelines and generating evidence to influence practice. Previously, OE staff tended to be clinicians with part-time academic roles but, since 2017, UCO have been developing career pathways to recruit full-time academic staff, and change management processes instituted in 2020 to standardise contracts aim to clarify expectations for staff with multiple roles and improve effectiveness.

1.4 Research context: Osteopathy was initially founded on experiential knowledge and still has a limited infrastructure for research and development. Key challenges currently facing the profession in the UK and worldwide include: a limited pool of academics who are active researchers; few resources available to small institutions; lack of access to mainstream funding; and a narrow range of peer-reviewed publications that focus on osteopathy. The UCO is currently leading the development of research capacity and expanding healthcare knowledge and evidence to inform osteopaths' clinical practices. The profession has not previously had a long or strong research tradition, compared to physiotherapy for example, but research career pathways are also increasing following statutory regulation in 2000 and recognition of osteopathy as an Allied Healthcare Profession (AHP) in England in [April 2017](#). Up to 2017, UCO development focused on achieving TDAP and institutional designation, and included plans an active research team with sufficient critical mass to create impact. This led to recruitment and promotion of five staff with doctoral qualifications, who represent approximately 15% of UK practitioners with osteopathic PhDs or Professional Doctorates (GOsC 2021, personal communication). The whole UCO research education team includes six Category A staff (FTE3.78), who are independent researchers and qualified osteopaths with additional educational and managerial roles plus two staff on teaching contracts and a part time administrator. Staff characteristics are described in Section 2.

1.5 Research governance: Activities are overseen and supported by the Research and Scholarship Strategy Committee (RSSC), which reports to the Academic Council and thence to the Board of Governors. RSSC terms of reference include responsibility for oversight of research governance and integrity, setting strategies, oversight of research degrees and receiving reports from the Research Ethics Committee. The UCO is working to implement a 10-year plan in collaboration with the University of Bedfordshire (UoB) to achieve the necessary environment and experience to apply for RDAP. From 2010-2020, a Professional Doctorate was accredited and delivered in collaboration with UoB, and seven graduates were returned to HESA by UoB. This degree is being restructured as a PhD to increase the number and calibre of applications, especially from international students, and to develop research skills more effectively than the first programme's focus on practice and education.

1.6 Research income: This has been modest to date, partially due to institutional size, context as a recently recognised allied healthcare profession, and the effect of multiple job roles on capacity. The institution has limited demonstrable experience in developing and managing large, long-term projects but the research unit is steadily building a track record in hosting and delivering funded research. The UCO have only had to completed HESA returns since designation in 2017, and research income since then was £193K (Section 3). This has included funding for paediatric systematic reviews and a clinical trial in collaboration with international partners, and a doctoral bursary in neuroscience in collaboration with Imperial College. Prior to 2017, two large funded projects created ongoing research impacts. These were a mixed, prospective cohort and qualitative study to explore adverse events, funded for £140K by the professional statutory regulatory body (Impact Case Study 1), and funding of £253K from the

Department of Health to evaluate fidelity and outcomes in an integrated physical and psychological intervention for patients with persistent pain (Case Study 2).

1.7 Impact from publications: The UCO benefits from membership of GuildHE Research, including the shared Research Repository. Publication summaries are also posted on the UCO website and intranet. There are limited finances to support open access publication, but staff working with other research groups have generated outputs with wider access. Recognition of the growing quality of UCO research and its' relevance to other manual therapists and healthcare professionals has been illustrated by an increasing number of interdisciplinary publications and invitations to peer-review for other healthcare journals. These include the BMJ, BMJ Open, Annals of Family Medicine, BMC Health Services Research, BMC Musculoskeletal Disorders, PLOS One, PLOS Medicine, Musculoskeletal Science and Practice, European Journal of Pain, European Journal of Paediatrics, Medical Engineering and Physics, Clinical Biomechanics, and Chiropractic and Manual Therapies. Staff disseminate research and training to the osteopathic community via publications in a range of professional journals, including the International Journal of Osteopathic Medicine (IJOM), which is a key professional resource for osteopaths in the UK and worldwide. All staff have published peer-reviewed work during the REF census period and 26 of 37 publications were in IJOM. The journal is published by Elsevier and, although the potential audience of osteopaths is relatively small, its' impact factor has increased to 1.208. UCO research staff all have ORCID identifiers but there is no institutional system for recording research conducted by other academics. Staff also disseminate to wider audiences through conferences and evidence-informed Continuing Professional Development (CPD) courses.

1.8 Impact from collaborative research: National policy impact has been achieved by a member of the team (SV) who was part of the clinical guideline development groups for two NICE guidelines and a member of the team that developed the National Back Pain Pathway. Within the profession, impact is achieved through research portfolios which address national healthcare priorities (e.g. promoting patient self-management for long-term conditions) and maximise staff expertise. This includes exploring the mechanisms underlying poorly understood conditions, and ways of strengthening the safety, scope and effectiveness of care for musculoskeletal conditions (e.g. low back and neck pain) and for vulnerable patient groups (e.g. chronic pain and paediatric populations). The UCO's paediatric research work was recognised in the Institute of Osteopathy (iO) research in [Practice Award for 2019](#). Impact is also being achieved through collaborative research and leadership initiatives. The UCO is supporting OT and JDR who successfully gained places on an international research leadership and [capacity programme](#) hosted by the Australian Leadership Programme and UTS (Section 2). Staff have contributed to community impact through collaborations which included acting as recruitment partners for the [PAIN-OMICs study](#) coordinated by Professor Frances Williams at Kings College London, and with Professor Alison McGregor and Dr Enrica Papi at Imperial College on an [innovative visualisation study](#) to assess functional differences in daily movements in patients with back pain. Local community impact from UCO research includes social benefits from specialist clinics at the UCO and the European School of Osteopathy (ESO) for patients with persistent musculoskeletal pain. In the UCO, expertise in evidence-based practice has increased awareness and use of guidelines among staff and students in the Outpatient Clinic where cohorts of new osteopaths are trained.

2. People

2.1 Overview: The UCO has recently evolved from a private educational charity to a university college, necessitating significant changes in standards and skills. A recent workforce change management process, started in in 2020, was prompted by the need to rationalise multiple part-time contracts. This ongoing process aims to clarify roles to increase capacity and effectiveness, including research unit reorganisation in 2021. The UCO was not eligible to enter REF2014 and resources were focused on gaining TDAP. Since becoming a university college, the team has

focused on enhancing policies to support thriving academic and research environments with the longer-term aim to apply for RDAP by 2032. Strategies for recruitment and development aim to increase research literacy in the profession, demand for postgraduate training, and capacity to undertake large projects.

2.2 Staff characteristics: In 2020, there were 131 UCO academic staff (57% male, median age 41-50 years) plus six the Category A research staff submitted to REF (four male, median age 51-60 years). Three of 137 academic staff had doctoral qualifications, compared to five of the six researchers. Approximately 34 UK osteopaths have osteopathic doctoral qualifications (GOsC 2021, personal communication). Research capacity increased over the REF census period. In 2014, three staff would have been classed as Category A (2.21FTE), increasing to six in 2020 (3.78FTE). One researcher is on a two-year fixed term contract and five have tenure. One person is full time and the part time contracts are from 0.34- 0.8FTE. All Category A staff have responsibilities for teaching and assessment in proportion to FTE.

2.3 Institutional growth: In 1990, two part-time staff were employed to manage student projects, with subsequent recruitment of a research education team. Since 2017, the UCO has appointed two Associate Professors, one Professorial Research Fellow and a Senior Research Fellow to strengthen research. The institution funds research and education conference attendance and supports applications for [study leave](#), including sponsorship for further training. Two staff who completed Professional Doctorates in 2016-17 were promoted in line with Professional Development Review and Encouraging Performance policies. Category A staff support teaching faculty by supervising student projects and developing research skills amongst the academic supervisors.

2.4 Staff development: The UCO promotes continuing professional development (CPD) through free, subsidised, or funded course attendance. Staff benefit from the annual [Professional Development Review process](#) and [Encouraging Performance Policy](#), which uses peer feedback to review achievements, identify training needs and targets for the next academic year. In the research unit, development is supported by bespoke training events (e.g. doctoral supervision led by the University of Bedfordshire), held every two years and grant application training provided on 07/03/2018. SV and HA have regularly attended GuildHE Research meetings since 2018 and an NIHR event for healthcare researchers on 10/07/2018. The UCO hosted a research ethics event, organised collaboratively with NCOR and open to other OEIs, on 4/02/2018. Staff with statistical expertise participated in training for managing clinical trial data and other datasets. Current activities focus on data collection in a randomised clinical trial and preparing for a single case experimental design study.

2.5 Equality and diversity: In 2011, 86-96% of UK osteopaths were heterosexual, 82-90% white, 51-61% Christian, 51% female and 3% had a disability (KPMG 2011), but this data is old and incomplete as new graduates often choose not to record diversity data about ethnicity (48%), sexuality (54%) or disability (99%) (GOsC 2019). At UCO, HESA data were not routinely collected before 2017, and limited information about protected characteristics prevents a full assessment of diversity. In 2020, 9% of UCO academic staff were from BAME backgrounds, 6% disclosed physical or mental disability and 4% identified as LGBTQ. Given the research unit's size, quantitative comparison is limited but one researcher identified as LGBTQ, no-one reported a BAME background or disability, and no staff requested reduced REF output. Female staff occupy two of four senior management positions, and two female research staff work at senior levels. Gender pay gap variability for academic staff is also affected by the institution's size.

It was 9.93% for salaried staff in 2019 and 11.84% in 2020, which compares favourably with the national gender pay gap of 17.3%.

2.6 Improving diversity: Recent debates in the profession indicate that under-represented groups are dissatisfied with lack of diversity and cultural competence in OEIs, GOsC and Institute of Osteopathy. Plans to recruit and retain UCO staff from minority backgrounds or with protected characteristics are being addressed by the EDI Committee through policies to safeguard dignity, address bullying and harassment via whistleblowing, and by establishing community groups to support students and staff with experiences of inequality. These include the Black Community, OUT@UCO for people who are LGBTQI, ENable for people with disabilities, Carers, and the Inter-Faith and Women's groups. Research staff have run three training sessions on implicit bias with participants from all departments as part of the REF preparations and are developing a GOsC-funded survey of EDI issues reported by students in all UK OEIs. To raise awareness in other OEIs, a keynote speaker at the 2019 Education Conference presented research identifying the challenges faced by physiotherapy students from BAME backgrounds ([Norris et al 2018](#); [Hammond et al 2019](#)). We are also exploring affiliate membership of Advance HE to support equality and diversity practices.

2.7 Research career development: The UCO does not yet have the financial capacity for sabbatical leave but offers support with training and CPD. Staff can use the [Flexible Working Request Policy & Procedure](#), [Study Leave Policy](#) the [Family Leave Policy](#) to address specific needs. Research staff are supported in developing research leadership skills: JDR and KB were awarded [Society for Back Pain Research Travel Fellowships](#). OT, HA and JDR [completed leadership programmes](#) with the GOsC, in collaboration with Open University, and OT and JDR are currently on an [International Osteopathy Leadership and Capacity Building Programme](#). Doctoral studies for HA and JDR were sponsored and there is a budget for conference attendance.

2.8 Category A staff:

2.8.1 Steven Vogel DO is Deputy Vice-Chancellor (Research), Editor in Chief of the International Journal of Osteopathic Medicine (IJOM), Trustee of the National Council for Osteopathic Research (NCOR), previous Secretary and President Elect of the Society for Back Pain Research (SBPR). He participated in several guideline development panels (NICE 2009, NICE 2016, IFOMPT 2020) and large, funded research projects including collaborations with physiotherapists to develop best practice in the [assessment of vascular pathologies associated with neck and headache](#). He was part of a multi-professional team (31 stakeholders) developing a [National Back Pain Pathway](#). From 2014-2020, he authored or co-authored 9 publications, 2 clinical guidelines, 1 national clinical pathway, 9 editorials and two letters to the editor.

2.8.2 Dr Dawn Carnes PhD, BSc(Hons) Ost, BSc(Hons) Psych is a Professorial Research Fellow, Director of the National Council for Osteopathic Research (NCOR), Chair of the Council for Allied Health Professions in Research (CAHPR) strategy committee, member of the European Forum and Federation of Osteopaths research working group, and member of the International Advisory Panel for IJOM. She has significant experience in national and international projects to improve musculoskeletal practice, including five large NIHR-funded and one charity-funded clinical trials between 20014-2020. She has collaborated with psychologists and GPs at UK universities to develop interventions for chronic pain, headache management and opioid reduction for persistent pain, and with osteopaths to identify national and international patient and practitioner characteristics. Her work on [adverse events, risk assessments and patient complaints](#) guided revisions of the GOsC Osteopathic Practice Standards, CPD scheme, pre-registration degree requirements and complaints process. She contributed to two WHO

projects (Developing Complementary and Alternative Research 2015; International Classification Framework for Functioning for Manual Medicine, 2019). From 2014-2020, she authored or co-authored 21 publications.

2.8.3 Dr Oliver Thomson PhD, MSc, PG Cert, BSc (Hons), DO is an Associate Professor, Doctoral Programme Leader and Associate Editor of IJOM. He has developed qualitative research approaches to explore osteopathic identity, clinical reasoning and evidence-based practice. He collaborated in a national study of the profession to evaluate [effective regulation](#) with colleagues from Warwick Business School and the University of Nottingham, which gained a 2016 International Organisational Behaviour in Health Care (IOBH)C for its' contribution to evidence about healthcare regulation. This work led to changes in [GOsC policies for CPD and standards of osteopathic regulation](#) in the UK. He collaborated in surveys to assess osteopaths' attitudes to evidence-based practice in the UK, Australia, Sweden and Spain, with ongoing work in Canada and Italy. Results prompted changes in osteopathic education to address skill deficits and a systematic review of barriers and facilitators of BPS care for people with musculoskeletal pain (under review). He is part of an international network of 15 osteopathic researchers from Australia, Canada, Italy, UK, Sweden and Brazil. From 2014-2020, he authored/co-authored 32 publications.

2.8.4 Dr Jerry Draper-Rodi D.Prof.(Ost), PG Dip, PG Cert, DO is a Senior Research Fellow and Head of UCO CPD, the largest provider of postgraduate education for UK osteopaths. Since 2017, he has developed an evidence based CPD portfolio. In 2020, he was part of a taskforce to develop guidelines for remote consultations for the Institute of Osteopathy. This led to webinars to approximately 2,500 osteopaths and a [publication](#). JDR collaborates in biopsychosocial healthcare research with osteopaths from Belgium, France, Italy and the USA, and UK osteopaths on [headache management](#). He is part of an international network of 15 osteopathic researchers from Australia, Canada, Italy, UK, Sweden and Brazil. His research has been recognised in two awards from the Institute of Osteopathy and one from SBPR. He has supported training for curriculum transitions to biopsychosocial frameworks in French OEIs. He was awarded an SBPR Travel Fellowship and is the current Treasurer. From 2014-2020, he authored/co-authored 15 articles, 3 letters to the editor and 2 editorials.

2.8.5 Dr Hilary Abbey D.Prof.(Ost), MSc, PGDip, PGCert, DO, FHEA is an Associate Professor and Head of Research. She has experience in developing integrated physical and psychological care packages for patients with persistent pain and led the [OsteoMAP cohort study](#) (2013-16). She is currently working on research training for osteopaths in a single case experimental design (SCED) study of low back pain management, and an applied model of integrated physical and psychological practice as part of a [project on Active Inference](#) with colleagues from Italy and Sweden, and supported by Professor Karl Friston from University College London. From 2014-2020, she authored/co-authored 8 publications and 2 editorials.

2.8.6 Dr Kevin Brownhill PhD, MSc, BSc.(Ost), GradStat is a Research Fellow, experienced researcher in spinal biomechanical analysis, and Statistical Advisor for IJOM. He provides quantitative support for undergraduate and postgraduate studies including OsteoMAP, the CUTIES trial and the single case experimental design. He has collaborated with partners on spinal movement analysis, including AECC University College (AECCUC) radiographic analysis of video-fluoroscopic [imaging of spinal movement in people with chronic back pain](#), Imperial College analysis of [3D kinematic data](#), and with the Ecole Supérieure d'Osteopathie to develop the use of [Wii platforms for balance assessment in fall prevention](#). From 2014-2020, he authored/co-authored 3 publications.

2.9 Research students: Seven osteopaths completed the Professional Doctorate in Osteopathy, validated by UoB, and other UCO staff acted as directors of studies and co-supervisors. This programme is being developed as a PhD to support strategic plans to apply for RDAP by 2032 and is planned to recruit approximately five students per year, starting in September 2021. PhD students will have access to UoB and GuildHE Research resources, including peer support and a writing summer school. In total, nine doctoral students have been supervised to completion by UCO staff. Currently three PhD students are being supervised in collaboration with Queen Mary, University of London, London Southbank University and Imperial College. The student at Imperial is being funded a donation to the UCO of £110K in 2019.

2.10 Comparison: Nine UK OEIs are accredited by the GOsC but not, as far as we know, submitting to REF. We are not aware of any survey data to compare impact with other OEIs.

3. Income, infrastructure and facilities

3.1 Overview: UCO infrastructure and activities have evolved in response to changes in institutional designation, and it is regulated as an HEI by the Office for Students (OFS) and as an OEI by the General Osteopathic Council (GOsC). Since the first BSc in Osteopathy was validated by the Open University in 1993, educational levels have risen. Between 2004-17, Most degrees were validated by the University of Bedfordshire (UoB) and the first Professional Doctorate in Osteopathy was created in 2010. Five of the six staff submitted to REF have doctoral qualifications, which would not have happened two decades ago when few osteopaths had higher level qualifications, and only about 34 UK practitioners currently hold PhDs or Professional Doctorates in Osteopathy.

3.2 Institutional infrastructure: The transition to UCO required changes in infrastructure, committee accountability and reporting, and policies to guide and monitor activities. Working patterns evolved organically and raised challenges in managing an institution where most staff have multiple roles. The benefits of working in a small HEI are that overlapping roles can facilitate communication, integration and sharing good practice. Infrastructure is reviewed regularly to ensure it is still fit for purpose as the institution develops and matures. Committee effectiveness is surveyed regularly, and data is used to guide action plans, clarify terms of reference and reporting, and review membership for stakeholder representation.

3.3 Institutional development: The UCO has had collaborative relationships with Keele University since 2006 and Imperial College since 2018. More recent Memoranda of Understanding are with the Anglo-European College of Chiropractic University College, Victoria University in Melbourne and Kristiania University College in Oslo. UCO staff have leading positions in national and international osteopathic networks including the National Council for Osteopathic Research (NCOR), Osteopathic International Alliance (OIA), European Federation and Forum for Osteopathy (EFFO) and Osteopathic European Academic Network (OsEAN). They also contribute to the Institute of Osteopathy (iO), Osteopathic Foundation (OF), and Council of Osteopathic Educational Institutions (COEI). Since 2017, the UCO has continued to develop practices to strengthen quality assurance. Long-term strategies include increasing capacity to develop new courses, validate and monitor courses in other OEIs, support larger research projects, and expertise to apply for RDAP. Educational quality was recognised with TDAP and TEF and partnerships to accredit other degrees involve helping less experienced HEIs to develop robust academic and research strategies. Current partners are: Osteopathic Centre for Animals, Wantage, UK (since 2016); Accademia Italiana di Medicina Osteopatica (AIMO), Saronno, Italy (2018); College of World Sport Holdings (CWSH), London, UK (2019); College of Integrated Chinese Medicine, Reading, UK (2019); Northern College of Acupuncture, York, UK (2020). Negotiations are in process with the Sports Ultrasound Medicine Group,

London; International College of Osteopathic Manual Medicine, Rome; and Centre National des Études Supérieures d'Ostéopathie Animale, Châtel-Guyon, France.

3.4 Research infrastructure: Since 2012, the Research and Scholarship Strategy Committee (RSSC) has been chaired by SV, the DVC-R, and supported by an external advisor, Dr David Langley, formerly Director of Research and Enterprise at Bristol University and currently Chief of External Engagement at New Model Institute for Technology and Engineering. The RSSC has oversight of strategies and policies to support research integrity, governance, and capacity. It is accountable to the Academic Council and thence to the Board of Directors. The committee monitors and approves activities of the Research Ethics Committee (UCOREC) constituted in 2008, and Research Excellence Framework Committee (REFC) constituted in 2019. The RSSC consists of six members from different departments and an external academic member. It is responsible for monitoring the broader healthcare and research horizons, guiding strategic initiatives and enacting plans for change. Strategies to increase research capacity included major change to undergraduate education in 2019, with a new curriculum focused explicitly on the knowledge and skills needed by clinicians as consumers of research. This aligns with GOsC CPD requirements for objective data collection activities as part of annual registration and changes to limit primary data collection by undergraduates also increase staff capacity for high level research by reducing time needed for student supervision. Institutional change management processes are also clarifying expectations for staff with multiple roles, which will create allocated time for research and embed expectations in annual Professional Development Reviews (PDRs).

3.5 Research ethics: UCOREC consists of 12 members, half of whom are lay members (non-osteopaths). The six external members include a Chair who is a longstanding member of a Research Ethics Service REC. The Secretary is a member of the research teaching team with an educational role. UCOREC is responsible for evaluating proposals submitted by students and staff. Where these involve NHS participants, UCOREC refers applicants to appropriate NRES processes. Doctoral proposals are reviewed firstly by UCOREC and then by University of Bedfordshire faculty or University REC. Committee work has been strengthened by ethics training and participation in inter-institutional University Research Ethics Forum meetings until they ceased in 2017.

3.6 Institutional income: Annual income in 2019-20 was £5.05 million, mainly from student fees with some revenue from clinical services. Approximately 35% of patients pay full fees, with 6% on reduced community partnership fees to support local keyworkers, but 49% of patients pay concessionary fees (older, unemployed, disabled adults, full-time students) to promote wider access to osteopathic care. Children and patients with HIV/AIDS 10% receive free treatment funded by the UCO or charitable foundations (10%; clinic data March-April 2021). The UCO gains some revenue from CPD courses, fundraising and marketing but research income represents a small percentage of annual turnover.

3.7 Research income is modest but aligned with expectations for a small HEI. Total research income since HESA reporting started in 2017 was £193K, without significant NIHR or BEIS funding. Projects were generally sponsored internally or by professional bodies or charitable organisations including UK osteopathic organisations (e.g. GOsC, IO, OF, NCOR); international groups (OIA, Australian College of Chiropractic Paediatrics); and charities such as the Alan Diamond Foundation. (Table 1). Prior to 2017, funding for research or service evaluation projects totalled £403K (Table 2). Studies generating outputs during the REF period include the [Clinical Risk in Osteopathy and Management study](#) (CROaM; 2009-14), GOsC funding of

£140K, and the [Osteopathy, Mindfulness and Acceptance Programme](#) (OsteoMAP; 2013-16), Department of Health funding of £253K.

Table 1: Research income since 2017

Funding sources	2017	2019	2020
UK organisations & charities	2,000	130,000	40,000
International organisations	0	7,000	14,000

Table 2: Grants awarded before 2017

Funding sources	Pre-REF period	2014	2015	2016
NIHR & BEIS funding	253,000			
UK organisations & charities	140,000	10,000		

3.8 Funding strategies: Staff previously joined collaborative projects through personal networks and relationships with other groups and income was created through serendipitous opportunities in projects of shared interest. To increase future income, plans include:

- Aligning portfolios with national healthcare priorities (e.g. multimodal care; enhancing resilience; self-management)
- Topics of interest for collaboration with other groups (e.g. management guidelines; adverse events)
- Improving care for vulnerable patient groups (e.g. chronic pain patients, infants)
- Exploring underlying mechanisms in musculoskeletal conditions (e.g. low back pain) and manual intervention effects on these mechanisms.

3.9 Institutional resources: Following two changes of location due to growth, the UCO moved to larger premises in 1997 and invested £5.2m in a separate clinic building in 2006. The teaching building is a four-floor office block which occupies 4,060 m² and the clinic occupies 1,127 m² gross internal area on the ground floor of a mixed development, which includes offices, residential accommodation, and social housing. There are 34 treatment rooms, a reception area, administration offices, study rooms, group teaching rooms and a staff room. The SE1 catchment area includes businesses and an inner-city regeneration area, which provides varied patient populations for clinical education. The UCO reviewed its' estates strategy and is exploring possible relocation and investment of £24.7m to a purpose-built, long leasehold opportunity in a regeneration area in East London. This would merge the teaching and clinic sites into one 4,235m² building. Heads of terms have been signed and a sales and purchase agreement are being written by professional advisors.

3.10 Research resources: A research office is used by five Category A staff, two educators and an administrator. The Deputy Vice-Chancellor (Research) has an adjacent office and there is a small laboratory on the same floor. In the new building, staff would work in shared offices to facilitate integration, with access to a laboratory and rehabilitation gym to facilitate patient research and engagement with community groups. Current facilities are adequate for the portfolio of practice-based and clinical research, although space and measurement resources are limited to basic anthropometric and mechanical measurement equipment. To enhance knowledge resources, the UCO joined GuildHE Research in 2018, a collegial network of 30 small HEIs. Regular participation in face-to-face and virtual meetings supports members' initiatives to embed a positive research culture, develop robust research and innovation strategies and appropriate infrastructures, and to enact individual strategic plans.

Other UCO resources include staff expertise and recognition as a leading osteopathic research team in the UK and internationally. Patient data is accessible from a busy Outpatient Clinic and clinical resources have been made available to researchers from Kings College London and Imperial College. Data sharing arrangements have included Imperial College; University College London; the European School of Osteopathy, Maidstone; and Anglo European College of Chiropractic University College, Bournemouth. Becoming a university college has increased the UCO's potential to bid for funding and strengthen research governance, but we are still in the early stages of development.

3.11 Research impact: Outputs demonstrate cumulative development in expertise and impact on professional knowledge, particularly in scope of practice, adverse events, and paediatric osteopathy. From 2019-20, DC led a [survey and retrospective clinical audit](#) exploring scope of practice and osteopathic patient profile, funded for £10,000 by the Osteopathic International Alliance. Results are being used to develop snapshot clinical summaries, an AI platform disseminating information via social media, and a clinical audit practical e-learning module. DC's frequently cited [systematic review](#) of adverse events and risks in manual therapy and SV's national survey of adverse events in osteopathic practice [projects](#) were funded by the General Osteopathic Council, and led to a national survey of [research priorities](#) and [revised Osteopathic Practice Standards](#). An online adverse event recording and learning platform for [practitioners](#) and [patients](#), and DC's review of [insurance complaints](#) also supported developments in CPD for [adverse events, risk and patient consent](#). In paediatric osteopathy, DC led a systematic review of manual therapy, supported by crowd funding of £18,000 from within the profession. A systematic review of the [effectiveness of manual therapy for distressed, unsettled and crying infants in primary care](#), was followed by a [systematic review of the effects of common treatments for infantile colic, positional plagiocephaly and congenital muscular torticollis](#), funded by the Australian Paediatric Chiropractic Association. These reviews led to development of the ['CUTIES' trial \(2019-2022\)](#), hosted at the UCO and funded for £83K by NCOR and OF.

3.12 Research integrity: The DVC-Research (SV) is the institutional contact for research integrity, supported by the Secretary of UCOREC. A [Research Governance and Integrity Policy](#) and [Research Misconduct Policy](#) are in place, alongside whistleblowing procedures. We do not have staff specifically responsible for promoting impact but plans for integrity and FFRRM-approved metric training will be supported by current workforce changes. As capacity develops, and with support from GuildHE Research membership, long-term plans involve enhancing practice to align more closely with the expectations of Concordats to Support Research Integrity, Career Development of Researchers, Engaging the Public with Research, Open Research Data, and Advancement of Knowledge Exchange in Higher Education in England, all of which will support a future application for RDAP.

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

4.1 Overview: UCO research has been influential in the changing attitudes to evidence informed practice within the osteopathic profession, [reported recently by the GOsC](#). Progress over the REF census period in developing collaborative networks in osteopathy and other physical therapy professions has contributed to safe, effective health education and clinical practice. Staff have initiated and participated in large-scale projects with national and international governing bodies, professional organisations, and other research and special interest groups. Locally, research has promoted changes in osteopathic education and innovative healthcare in the UCO and ESO Clinics, with evidence of a sea change in attitudes to evidence-informed practice in the wider profession.

The UCO contributes to disciplinary knowledge, good practice and innovation through impacts on GOsC [Standards of Practice](#) and [guidance for pre-registration osteopathic education](#). It also hosts a biannual Education Conference to share good practice amongst OEIs and staff contribute to the National Council for Osteopathic Research (NCOR), where DC is Director and SV is a stakeholder representative and trustee.

4.2 International contributions: In 2014, DC set up a network of researchers with the [Osteopathic International Alliance \(OIA\) to share information and tools](#) to survey scope of practice, and DC and OT are current members of the [European Forum and Federation of Osteopaths](#) Research Working Group. A memorandum of understanding was developed with the Collaboration for Osteopathic Medical Excellence (COME), a network of European researchers co-ordinated in Italy. [Projects](#) include a new model of practice based on [Active Inference](#), with publications in *Frontiers in Psychology* planned for 2021 (HA), and attitudes to [evidence based practice amongst European osteopaths](#) (OT). The [CUTIES trial](#) into paediatric care involves partnerships with institutions in the UK, Australia and Sweden. OT and JDR are developing capacity-building projects on osteopathic evidence and clinicians' use of evidence with the [Australian Leadership Programme](#). KB has collaborated with French osteopaths to develop the [Wii balance board for research into falls prevention](#).

4.3 Interdisciplinary contributions: Osteopathy was only recognised as an allied healthcare profession in England in 2017. Before that, the UK profession developed in Complementary and Alternative Medicine, largely separate from mainstream medicine in the NHS. Six of the nine GOsC recognised qualification providers run courses validated by other universities, with two newer programmes managed by host universities (Swansea and the University of St Mark and St John in Plymouth). The UCO is currently the only OEI with independent TDAP and institutional designation. Before the UCO achieved professional and academic recognition, there were limited opportunities to collaborate outside osteopathy, but personal contacts and recognised expertise enabled the creation of networks with other disciplines. Interdisciplinary contributions include work on primary care interventions in physiotherapy, chiropractic and psychologically informed interventions for musculoskeletal conditions (Section 4.4).

4.4. Back pain research: SV collaborated on an [NIHR programme research award with Keele University](#) and the Musculoskeletal Pain Clinical Studies Group, who were charged with setting priorities for clinical trials for Versus Arthritis (formerly Arthritis Research UK). Prior to 2014, he collaborated with colleagues from Keele, Queen Mary's, University of London and Royal Holloway on other funded awards which investigated care processes for musculoskeletal disorders. More recently, SV contributed to the [EDISC spinal task force and was a faculty member of the EDISC Non-surgical Interprofessional Diploma \(Eurospine\)](#), [The International Federation of Orthopaedic Manipulative Physical Therapists' team developing the International Framework for Examination of the Cervical Region for potential of vascular pathologies of the neck prior to Orthopaedic Manual Therapy \(OMT\) Intervention](#). SV also made expert contributions to the [Development of an ICF-based assessment schedule for manual medicine](#), and [NICE low back pain clinical guideline development](#). SV and JDR have served on the [Society for Back Pain Research Executive](#) Committee. As SBPR Secretary, SV was also a member of the [United Kingdom Spine Societies Board](#) and appointed President Elect of SBPR in April 2021.

4.5 Contributions to practice and education: The UCO validates courses at Osteopathic Centre for Animals, Wantage, UK (since 2016), Accademia Italiana di Medicina Osteopatica (AIMO), Saronno, Italy (since 2018), College of World Sport Holdings (CWSH), London, UK (since 2019), College of Integrated Chinese Medicine, Reading, UK (since 2019) and Northern

College of Acupuncture, York, UK (since 2020). In 2015, DC led a national 'Patient Reported Outcome Data Collection' project using a web interface and a mobile phone app. PROMS provide information about osteopathic care for use by patients, practitioners, the profession and the wider healthcare community and the [ePROMS project](#) is being used in six European countries. A national and international database of PROMS now exists, which provides a set of standard outcomes against which osteopaths can assess their performance and monitor patient outcomes. JDR is part of a UK research team with the Osteopaths for Progress in Headaches and Migraines ([OPMH](#)) special interest group who are assessing osteopaths' competencies in assessment of headaches and migraines. An e-learning programme will be developed for their RCT to [assess the effectiveness of the e-learning in improving osteopaths' competencies](#). Staff also disseminate research findings to support evidence-informed healthcare education through biannual Osteopathic Education Conferences. In 2015, the topic was professionalism and professional boundaries; in 2017, strengthening the knowledge base for tomorrow's osteopaths; and in 2019, the focus was on evidence-based education and assessment processes.

4.6 Disseminating research into practice: Research staff are all involved in the production of IJOM, including roles as Editor in Chief (SV), Associate Editor (OT), Statistical Advisor (KB), member of the International Advisory Board (DC) and peer reviewers (HA, JDR). Staff are actively engaged in research dissemination in publications, conferences and CPD courses. In the UK, staff have delivered keynote lectures, presentations and workshops on evidence-based practice at: the annual Institute of Osteopathy Conventions (2014-2020), NCOR [conferences on chronic pain](#) and on applying [research in practice](#): annual SBPR meetings in Dublin (2014), Bournemouth (2015), Preston (2016), Northampton (2017) and Sheffield (2019); and the World Congress of Biomechanics in Dublin in 2018. Internationally, UCO research staff have delivered presentations and workshops to a range of healthcare conferences including: IdHEO in Nantes (France) in 2017 and 2019; OSEAN in Barcelona (2014), Vienna (2016), Lyon (2018); COME in Barcelona (2017), Dubai (2018, 2019), Sicily (2019), Paris (2020); SBPR in Groningen (2018); and the European Society for Philosophy in Medicine and Healthcare in Ghent (2015) and Zagreb (2016). Evidence-based CPD courses at the UCO have included: communication and consent, cervical artery dysfunction and spinal manipulation and psychologically informed practice (SV); biopsychosocial frameworks for musculoskeletal healthcare (JDR); and persistent pain management (HA).

4.7 New dissemination methods: Staff have been proactive in developing flexible methods of reaching audiences less likely to engage with formal research including webinars, online resources, and podcasts. Webinars to enable osteopaths to maintain up-to-date knowledge and fulfil CPD requirements during pandemic limitations on face-to-face consultations included: appraising research literature, and remote consultations (JDR); facilitating self-management in remote consultations (DC); COVID-19 and Infection Prevention and Control Guidance in practice (DC); 'best evidence' summaries (DC); reviews of treatments for infantile colic, plagiocephaly and congenital muscular torticollis (DC). To promote wider engagement with research and evidence-informed practice, staff also created new accessible online resources including: open access resources for remote consultations (JDR); [webinar](#) on finding and making sense of research literature (JDR); webinar on the [state of affairs in osteopathy](#); and OsteoMAP resources available at [ACBS](#).

4.8 Impact beyond osteopathy: The 'Words Matter' podcast series, developed as a personal project by OT, showcased sessions with [UCO colleagues SV and JDR](#). OT also created [16 podcast interviews](#) with authors of each chapter of a new [healthcare philosophy book](#) by the [CauseHealth network](#), a critical analysis of concepts of causation in person-centred care that

has demonstrated its' relevance and popularity for a wide range of healthcare practitioners. Professor Stephen Tyreman, a key member of the UCO research team until his death in 2018, was a significant force in the CauseHealth network and the book is dedicated to his memory. Tyreman was also instrumental in generating links with Professor Bill Fulford at the [Collaborating Centre for Values Based Healthcare](#) at St Catherine's in Oxford, and the UCO is an institutional member. Tyreman and Fulford were influential in [developing concepts of Values Based Practice and regulation in collaboration with the GOsC](#) to guide Osteopathic Practice Standards revision.

4.9 Contributions to society and the economy: Impact has been through SV's work on [NICE back pain guidelines](#) and the [National Back Pain Pathway, which influenced national care pathways](#). However, as a small healthcare education charity, the UCO has not yet made major contributions to the wider economy but are committed to creating sustainable research environments to help the profession mature and contribute effectively to wider healthcare. During the REF census period, outputs and dissemination activities strengthened the UCO's status as a centre of expertise for osteopathic healthcare, education and research. Future plans include strengthening our collaborative approach and participation in interdisciplinary networks, embedding data collection and impact assessments into institutional processes, and increasing research capacity and expertise in preparation for REF2028 and RDAP.

4.10 Summary: This environment statement has presented both the context of the UCO as a small, specialist, allied healthcare HEI and the scope and reach of its' research activities. This submission to REF illustrates development in our capacity to generate and disseminate research to improve musculoskeletal healthcare practice. From 2014-2020, we gained institutional designation, TDAP, University College status and a silver TEF award. Change management processes are creating a sustainable base for growth and future plans include:

- Developing KEF policies and joining AdvanceHE as an associate member
- Recruiting research-active staff to extend expertise and build critical mass for RDAP
- Delivering a PhD programme with international relevance and value
- Strengthening infrastructures to support equality, diversity and inclusivity; a thriving research environment; and aligning with concordat principles for impact and reach
- Strengthening evidence-informed practice through research courses, publications, presentations, with blogs and webinars to wider audiences
- Developing further inter-institutional and interdisciplinary collaborations and opportunities to contribute to policy advisory committees and guideline panels
- Developing routine feedback collection using patient reported outcome measures, with public and other stakeholder experiences to guide future research
- Implementing systems to record impact metrics, in line with FFRRM guidelines.