

<p><b>Institution: University of East London</b></p> <hr/> <p><b>Unit of Assessment: 3</b></p> <hr/> <p><b>Overview</b></p> <p>In RAE 2008, we scored in the top half of submissions to UOA12 (allied health professions &amp; subjects allied to medicine) with the majority of our research judged as international and above, and with 10% considered world leading. Once again high-quality research outputs have been submitted which reflect our internationally excellent and world-leading research. UOA3 sits within the School of Health, Sport and Bioscience (HSB) with our research unified under the university theme of <i>Sport, Health and Wellbeing</i>, which includes both basic and applied science. In 2008 we submitted 12.5 FTE staff to UOA12; this has grown to 14.8 FTE in REF2014. Our research is focussed around four strong clusters: the <b><i>Institute of Health and Human Development (IHHD); the Human Motor Performance Group (HMPG); the Medicines Research Group (MRG) and the Infection Immunity Research Group (IIRG)</i></b>. These clusters have sustained their work with significant funding that includes: Greater London Authority (GLA), NIHR, Wellcome trust, W. M. Scholl Fund, Department for International Development (DfID), EU FP7, as well as from local NHS trusts. Over the assessment period we have increased funding per year almost seven-fold with total grant income of almost £3m for the period.</p> <hr/> <p><b>b. Research strategy</b></p> <p>Key strategic aims outlined in RAE 2008 were to:</p> <ol style="list-style-type: none"> <li>i. Build research capacity through strategic appointments</li> <li>ii. Build links with local NHS Trusts</li> <li>iii. Consolidate IHHD and build new research groupings</li> <li>iv. Increase external research income</li> <li>v. Develop local, national and international collaborations</li> <li>vi. Increase our numbers of PhD students</li> </ol> <p><i>(i) Building research capacity through strategic appointments</i></p> <p>In line with <i>UEL Research Strategy</i>, since 2008 we have seen a substantial step-change in the research environment. We submitted two professors in the RAE 2008 and subsequently have made a number of significant appointments to increase research capacity. We have appointed three new professors, a reader, five lecturers and three research fellows (RF). New staff possess strong track records of high level publications, and collectively have extensive experience in successful external grant capture, particularly in the area of Public Health and NHS clinically related research (see section c).</p> <p><i>ii) Building links with local NHS Trusts</i></p> <p>Our School has built a number of important external strategic partnerships including those with the National Health Service (NHS), industry and other UK and overseas universities. IHHD works directly with health authorities and UEL is part of UCL partners. The impact of our research is becoming increasingly recognised by academic and non-academic groups as being innovative, of high quality, supportive of and responsive to, health-related needs. One key aim of our strategy for building NHS links has been the appointments of: <b>Harden</b> as a joint UEL-Barts Health NHS trust Professor in Community and Family Health and an NIHR Clinical Lectureship Fellowship.</p> <p><i>(iii) Consolidating IHHD and building new research groups</i></p> <p>In RAE2008, we submitted our Unit under a common research theme inter-linked across Public Health, Biomedical Sciences and Rehabilitation. Leading our work was IHHD. Subsequently, we have formalised and developed three additional research groups (HMPG, MRG, IIRG) to reflect the diversity and interdisciplinary nature of our research activity.</p> <p>The <b><u>Institute of Health and Human Development</u></b> (IHHD) is a multi-disciplinary group with staff backgrounds in epidemiology, psychology, sociology, economics, public health, statistics and community development. Led by <b>Renton</b>, the group including <b>Dagkas, Harden, Jamal, Netuveli, Rao and Tobi</b> conducts research and development into health and well-being improvements and has: a commitment to community participation in co-designing research and interventions; a focus on the wider social determinants of health; and methodological expertise in the evaluation of complex interventions, the integration of qualitative and quantitative data and systematic reviews. The Institute is the lead academic partner in the £9.4m Big-Lottery funded <i>Well-London Programme</i>, which works to promote health in the most deprived areas across London through an</p>
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integrated community development approach. It leads the scientific evaluation of the Programme, which is designed as a pair-matched Community Randomised Controlled Trial with nested qualitative case studies funded by the Wellcome Trust. Additional Big Lottery funding (see section d) has recently been granted for a second phase that extends the Well London Programme further (Case Study 1). Through Professor **Harden**, we are attracting NIHR funding (see section d), **Harden** has also developed a programme of highly cited systematic reviews (e.g. output 1) on interventions to tackle the wider determinants of health and is a co-convenor of the Cochrane Qualitative and Implementation Methods Group. Research within IHHD is informing and contributing to development of international standards for evidence synthesis and primary research on complex interventions. Internationally, working with Professor Rao (Case Study 2), the Institute's evaluation research in India is influencing reform of health financing programmes for the 'below poverty-line' population. The recent appointment of **Dagkas** to our Applied Sports and Exercise Science area is pivotal to support the research in IHHD. His research is focussed on physical activity and health of young people and also the Olympic Legacy. **Dagkas** is providing new conceptualisations of social inclusion and health inequalities, especially for low socio-economic status children and evidence on the barriers to access to health and wellbeing initiatives, physical activity programmes and structural inequalities.

The **Human Motor Performance Research Group** (HMPG) is a multidisciplinary team of clinical scientists with backgrounds in physiotherapy (**Drechsler**), podiatry (**Gibson**) and neurophysiology (**Turner**). Their research programmes focus on how physical factors impact physiological and biomechanical function across the lifespan and the scientific development and evaluation of physical interventions to mitigate the effects of disease and trauma. The Group thrives as a forum for supporting multi-disciplinary research in the areas of haemophilia in children and adults, arthritis, childhood obesity and robot assisted stroke rehabilitation. The Group has developed to a point that it now has over 15 PhD students who focus on translation/ application of basic research into clinical practice. HMPG has established external collaborations (e.g. UK Haemophilia centres; Arthritis Research UK Centre of Excellence for Sport, Exercise & OA; Inst. for Ageing and Health, Newcastle University; Cardiff University Brain Research Imaging Centre (CUBRIC); Dept. Clinical Neurosciences, Cambridge University). HMPG has developed a track record of securing external funding to support its research. Since 2008, the group has won over £1.5m (see section d) of external funding including collaborative bids with its external partners. **Turner** researches state-of-the-art assistive technology to enhance recovery of functional movement following stroke or during the development of Parkinson's Disease, which has been incorporated into published recommendations for stroke rehab (Neurorehabilitation and Neural Repair 2009) and robot-assistive technology (Frontiers in Neuroprosthetics' 2013), (see section d).

The **Medicines Research Group** (MRG) embraces translational medicine themes across the biomedical disciplines concerning the quality, safety and mechanisms of action for prescription and over the counter medicines as well as novel drugs. Research led by **Corcoran**, focuses on the identification of novel chemical entities and elucidation of mechanisms that underpin pharmacological and toxicological responses at cellular and subcellular levels. The group has evolved a powerful chemometric model for correlating chemistry with pharmacological activity for complex biopharmaceuticals such as wound-healing and smoking-related lung cancer. **Ayoub** has established the novel role of cyclooxygenase variant enzymes (COX-3) during inflammation, pain and thermoregulation. **Seed's** research has focused the refinement of preclinical modelling of inflammation, immunity and arthritis: novel COX isoforms in hypothermia, pain and inflammation; the role of the non-canonical NFkB pathway in adaptive immunity and topical drug delivery.

The **Infection and Immunity Research Group** (IIRG) explores the interactive role between the host and pathogen elucidating mechanisms of disease pathologies. The group provides a forum supporting a broad range of related research areas recognised both nationally and internationally. **Cutler's** research has focussed largely upon zoonoses (especially those caused by *Leptospira*, *Coxiella*, *Rickettsia*, *Bartonella*, *Brucella* and *Borrelia*). Cutler's research has involved developing good collaborative links with countries such as Ethiopia and Kenya. Significantly, her research has advanced understanding of African relapsing fever, from primary isolation of what was believed to be non-cultivable microbes through to their characterisation, population structure and interface with vertebrate hosts. High-quality Immunological research (e.g. published in *Blood*) by **Outram** has focussed upon the molecular regulation of haematopoietic, and in particular, T and B cell development both at the level of transcription factors and secreted

morphogens. The research aims to extend understanding of the control of lymphoid cell development and the nature of the immune response to infection and its role in the development of auto-immune disorders. **Hayes** investigates the expression, signalling and trafficking of the epidermal growth factor receptor (EGFR) family of tyrosine kinase receptors and their associated ligands in normal tissue and epithelial cancers and their role in metastatic disease.

*iv) Increase external research income*

Since 2008 income for the unit, driven by IHHD and our new cohort of professorial staff has increased almost seven-fold from £87k per annum to £599k per annum (see section d).

*v) Develop local, national and international collaborations*

Academic networks of our staff are widespread and have grown extensively throughout this period with high quality collaborations with colleagues all over the world including India, North America, Russia as well as across Europe (e.g. Austria, France, Germany, Italy) and the UK (e.g. KCL, LSHTM, UCL, MRC Social and Public Health Sciences University of Glasgow - see section e).

*vi) Increase our numbers of PhD students*

We have used QR funds, to create bursaries for two to three PhD bursaries per year for 2009-13 and secured PhD studentships funded by our successful external research grants as well as two studentships from the International Sportswear Company ASICS. To date, our PhD student cohort has grown from 8 to 15 with 27 currently enrolled (see section c).

**Future strategic aims:**

For the next five years and in line with *UEL's Research Strategy*, our aim is to ensure that the impact and reputation of our research continues to grow locally, nationally and internationally and, to widen our external networks and funding streams. Specifically we intend to:

- Continue to retain and attract high calibre research staff and increase the number of joint research appointments with local trusts.
- Continue to support our experienced researchers and provide the resources to develop early career researchers (ECRs) and our mid-level research staff with the skills to advance their research and to submit successful funding applications.
- Develop our programme of systematic review work and build on our strengths in contributing to clinical guidelines/recommendations; and ensure our work receives maximum academic exposure by targeting top journals and maximising citations.
- Increase the size and number of collaborative inter-disciplinary bids with established and new partners, locally, nationally and internationally (HEIs, NHS trusts, Local Authorities, Voluntary and Community Organisations) and maximise the non-academic impact of our research.
- Deliver major increases in the size and nature of our external funding applications targeting: NIHR, Medical Research Council, Economic and Social Research Council, Wellcome Trust and Horizons 2020. This will underpin consolidation of our research, carried out in collaboration with renowned national and international research partners and engage locally based end-users.
- Develop further our research-training environment for researchers at all stages of development from post-graduate student through to senior professor.
- Seek to develop joint PhD studentships in collaboration with our partners and grow our numbers of RFs and PhD students.

On the evidence of our significant success since 2008, we believe that these strategic objectives are realistic and achievable.

**c. People, including:**

*i. Staffing strategy and staff development*

The vibrancy of our research culture lies in the intellectual capital of our researchers who are our greatest assets. The UOA responded to the retirement of a large number of professors just prior to RAE 2008 by developing our research institute (IHHD) and creating three distinctive research groupings, (HMPG, MRG and IIRG). The success of IHHD led by **Renton** has attracted high-calibre, research-active staff, including three new Public Health Professors: **Harden** (*Institute of Education*), **Rao** (*Institute of Public Health, India*), **Netuveli** (*Imperial College*), a reader, **Dagkas** (*University of Birmingham*), research fellows **Bertotti** (*Middlesex University*) and **Jamal** (*Matrix Evidence*). In addition to our new strategic senior appointments and with sustained School and institutional backing, two further staff have been promoted to professor (**Drechsler**, & **Corcoran**) and one to reader (**Cutler**). New appointment **Seed** (*Barts & The Queen Mary University of London*) recruited to MRG in 2011 was promoted to reader in 2013. We have also recruited new

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staff into our other research groups; in HMPG, Morrison and **Gibson**, podiatrists both from *University of Glasgow* and Stephensen (*former UEL PhD student, now NIHR Clinical Lectureship awardee and RF at UEL*); in MRG, academic staff **Ayoub** (*Barts & The London*); and in IIRG **Outram** (*University College London*) and **Hayes** (*University of Kent*).

It is recognised that, across the School, the balance between full-time and part-time researchers in our Institute and among our academic staff varies considerably and, as confirmed recently by an *EU HR excellence in Research Award*, we aim to support and manage career development at all levels in line with the guidance set out by RCUK in the *Concordat to Support the Career Development of Researchers*. This policy allowed us to attract and retain a range of academic and research-intensive staff and create joint appointments with local NHS trusts with impressive research expertise. This approach also brings considerable benefits for the career progression of individual researchers and for the wider community of staff and students providing a dynamic research culture and forms the basis for the development and innovation of the curricula across the School. Within the School, we have focussed our support for staff and encouraged applications for central and School research initiatives. In this audit period, through central funding and QR reinvestment worth £1.15m, staff from this Unit have benefited from several initiatives alongside other research staff within the School who are on a trajectory to feature in future REF assessments: 2 UEL Early Career Researcher Awards (60k), (**Corcoran, Cutler**); 6 UEL Promising Researcher Awards (£90K) (**Jamal, Outram**); 8 UEL Researcher Development Grants (£50k), (**Ayoub, Corcoran, Cutler, Tobi**); 24 UEL Research Interns (£48k), (**Cutler, Jamal, Outram**); 1 UEL RF (£45k), (**Renton**) 5 UEL Sabbaticals (£60k), (**Renton**); 13 School Sabbaticals (£52k), (**Drechsler, Corcoran, Cutler**); 11 School PhD studentships (£495k), (**Corcoran, Cutler, Dagkas, Drechsler, Harden, Outram, Renton, Turner**); 5 School Post-doctoral internships (£75k), (**Corcoran, Drechsler, Renton, Turner**); 10 School Research Funding Initiatives (£75k), (**Corcoran, Cutler, Dagkas, Tobi, Turner**).

We ensure that all of our senior appointments have research profiles aligned with our research interests and encourage joint appointments with the NHS. Staff with such a background, strengthen our collaborations and research done in the Unit can have a major impact for both service and end users. To ensure our research is widely disseminated we: i) involve end-users in the design of research to increase relevance and the likelihood that our findings will be read and taken up; ii) support conference attendance and pay fees for open access journal publication such as PLOS One; iii) press releases and promotional material is disseminated to promote findings of research; iv) promote our research programmes and research impact stories on our School and University website. These activities are evidenced by the growing reputation of our researchers shown in section e at the end of this document and in our Impact Templates (see REF3a). Key external researchers, many of whom are collaborators with us, are invited to share the impact of their research and we advertise pan-London to encourage as wide an audience as possible. We set achievable targets for research active staff in terms of outcomes and monitor research performance. The School has two dedicated Research Administrators whose work support management of the research area, PGR students, research grant implementation and our Research Seminars and PGR conferences.

The mechanisms for supporting research amongst new and existing staff are well established and widely understood. We have clear arrangements for the support and training of staff that includes funded sabbaticals, internal research funding initiatives, PhD and post-doctoral bursaries, international travel support, research expenses and conference fees. We especially support staff who, since the last RAE were moving towards international standing and gaining external funding to support their research programmes. All new staff inductions incorporate an introduction to institutional research support and opportunities for grant applications. Additionally, individual researchers are mentored by senior staff ensuring that good practices are disseminated and that effective one-to-one support is available. Part of our retention strategy of less experienced researchers is integration into an existing research group and mentoring and monitoring is handled by our senior researchers. Mentoring supports research plans and agrees achievable programmes and timetables for research with the aim to fully integrate less experienced research staff into the broader research culture.

#### **ii. Research students**

As a result of our strategy (see section b), PhD completions recorded on our HESA return has grown from 8 in 2008 to 14 for REF2014. We have used QR funds for 11 studentships. There

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has been an increase in the numbers of full time research students enrolled from 40% F/T (60% P/T) in the academic year '08/'09 to 65% F/T (35% P/T) in the academic year 11/12. Thanks to its growing international reputation since 2008, the Unit has recruited students from China, Ghana, Greece, Kenya, Mexico, Nigeria as well as the U.K. Supervised by members of IHHD and HMPG, three former PhD students have been appointed as lecturers in the School. Other graduates from the cohort have been appointed to senior positions (e.g. Head of Cellular Pharmacology at HAUST, Luoyang, China; Acting Head of Biochemistry, LAUTECH, Nigeria and Head of Microbiology Research, Kumasi Polytechnic, Ghana). We have invested in our School funded students through post-doctoral positions within their research groupings to support research capacity and the development of external funding applications (e.g. Stephensen now RF and NIHR Clinical Lectureship). Corcoran working in close partnership with former academic staff at Universidad Veracruzana, Mexico provided one year post-doctoral training opportunity at UEL for a post-doctoral researcher funded from CONACYT, the Mexican Science Research Council. We continue to support staff in professional areas in pursuit of PhDs. Research Fellows appointed and developed within our Institute (IHHD) have remained (**Tobi**, Bertotti, Sheridan), others have been appointed to senior research positions (e.g. London School of Hygiene and Tropical Medicine, Queen Mary University, Keele University, Liverpool University, University of New Zealand and Head of Research at Sightsavers International).

The UOA provides students with a dynamic and nurturing environment delivering a programme of intellectually challenging seminars, some of which are run collaboratively with colleagues in other Units. The offering is run in parallel to the Graduate School, which delivers workshops on topics such as research skills, networking and conference presentations as well as core cross-disciplinary research themes and allows our students to interact and exchange experiences across the institution. All students are invited to write and publish in prestigious peer review journals with their supervisory teams. They participate in School postgraduate research conferences which run bi-annually and are offered a range of financial support including full studentships, bursaries, fee-waivers and conference funding support.

#### d. Income, infrastructure and facilities

**Income:** HESA guided returns for 2008-2013 show that £2.99m of external income accrued was collectively awarded to staff in our UOA, an average of £600k per annum. The year-on-year funding from UK central government bodies, local authorities, health and hospital authorities and Charities demonstrates the success of our strategy to strengthen collaborations with these bodies and focus on research that matters to them and the beneficiaries they represent. IHHD has been particularly successful in securing external funding bids, winning over £2.6m over four years from sponsors including: GLA (£1.55m) and Wellcome Trust (£926k) to support **Renton** for Well London Phase 2; Awards from NIHR (£148k) and EC FP7 (£2m, £130k to UEL) supports **Harden's** research investigating inequalities in access to antenatal care in East London development grant and a recent award of a five year programme grant from 2014 (£1.9m). IHHD also secured funding from: DfLD (£144k), PCTs, Local Authorities and NHS trusts (£357k). **Drechsler** secured NIHR Clinical Lectureship (2011-'14) for RF Stephensen (£150k, £50k to UEL) and grants from the Dr William M. Scholl Podiatric Research and Development Fund (£155,253; £186,979; £132,403; £214,233 to support research into OA, Rheumatoid Arthritis and Childhood Obesity. **Turner** is a co-investigator on an NIHR major funded clinical trials for robot-assisted stroke rehabilitation (NIHR-HTA; 2013-2018) and the use of real-time neurofeedback based brain-training for Parkinson's Disease (Wellcome Trust Strategic Award to CUBRIC; 2013-2018). He is also a collaborator on Robot assisted therapy for the upper limb after stroke (RATULS) incorporating 16 NHS Trusts and 13 academic partners funded by NIHR-HTA (£3.1m).

**Infrastructure and facilities:** Our research has benefited from continual School and institutional investment in superb facilities and state-of-the-art equipment (£1.5m from 2008-2013). We have refurbished office space and meeting rooms for IHHD and our laboratory facilities for our other research groups. Major new equipment for our rehabilitation laboratories includes upgrade to the latest version of our state of the art *10 camera Vicon system*, additional gait assessment systems (*Data Gait; Mat Scan*), upgraded *Portable Ultra Sound* imaging, *KinCom dynamometer*, *Oxycon*, supporting the work of **Drechsler**, **Gibson** and HMPG colleagues. We have invested in Robotic technology (*Interactive Motion Technologies, Inc.*) to complete research by **Turner** at clinical sites including Addenbrookes Hospital, Cambridge and UCL Partner Trusts. We continue to refurbish and upgrade our wet laboratory spaces; substantial investment in genomic/proteomic and

cellular and ion channel electrophysiological equipment (e.g. *Accuri C6 FACS, capillary DNA sequencer, gel documentation system, Flow cytometry, RT-PCR, Flow, Electrophysiology work station, LC-DAD and LC-ESI-MS systems, Latach QC8500 analyser*) supports the research of **Corcoran, Cutler, Hayes, Outram and Seed** and offers a platform for a significant enhancement of biomedical research. In 2013, we invested in newly re-furnished dedicated post graduate office well equipped with computers, desk space and a discussion area, creating an attractive environment for our growing body of students in this unit.

**Research Governance** is managed through the University's Research and Knowledge Exchange (RKE) Committee and aligned with the University's Research Strategy (2012-2020). In 2009, we appointed **Drechsler** (submitted in RAE 2008, appointed Professor 2012), as Associate Dean of HSB who has an allied health professional background to lead research for the School in recognition of the importance of our collaborations with the NHS. The School RKE Committee monitors all research and scholarly activities led by the Associate Dean (RKE) along with the Professoriate, Readers and the Research Degrees Leader. It is responsible for the Policy and Practice for Research Governance and Ethics in the School in accordance with the *Concordats for Research Integrity and Patient and Public Engagement*. The Committee determines the strategic objectives of the UOA as well as the effectiveness of its policies and the implementation of research projects. Internal peer review of projects and grant applications by the committee and the School Research Degrees sub-committee ensures the quality and relevance of research proposals, that participants' rights are protected, appropriate health and safety guidelines are strictly adhered to and, financial guidelines are followed. All research projects are subjected to University ethics approval in parallel with project NHS REC approval for our clinical projects.

#### **e. Collaboration and contribution to the discipline or research base**

**Collaboration & integration with external bodies:** This UOA brings together expertise to carry out research on health and wellbeing and their social, economic and cultural determinants. The research produced has developed the capacity to influence and drive changes in health policy, service intervention and health system design locally, nationally and internationally. Research in this Unit is strengthened by our position and membership of key committees and boards in the NHS. In 2012, the Schools of Health, Sport & Bioscience and Psychology set up the *UEL Health Commission* to showcase UEL's research for health leaders and policy makers and to ensure that our research continues to address relevant research questions going forward. As a result of the commission, later in 2012, UEL joined University College London Partners (UCLP); whose purpose is to translate cutting edge research and innovation into measurable health gain for patients and populations locally, nationally, and internationally. This is an important strategic method of supporting our research. Since joining the partnership, our public health topic expertise and expertise in collaborative research with end users has been used to support UCLP's successful Academic Health Science Network (AHSN) application. The UCLP AHSNs is one of only five accredited networks in the UK.

Subsequently, in May 2013, **Harden, Netuveli and Renton** were involved as key researchers in the development and submission of a successful Collaboration for Leadership in Applied Health Research and Care (CLAHRC) bid drawing on their specialist research. Professor Rao sits on the WHO-Euro Public Health W'force Dev. Working Group and is an advisor to: Wellcome Trust Round Table for a UK-India Primary Care Partnership; Public Health Foundation of India's Academic Committee; British High Commission in India Health Group; Kerala Primary Care Development Working Group; and Faculty of Public Health International Committee. In 2012, Rao was awarded an OBE for her research in Public Health. Beyond the University, examples of collaboration on public health research include: a) Well London Programme bringing together a new partnership of public, voluntary and education sector organisations - LHC, Arts Council England, Central YMCA, Groundwork London, London Sustainability Exchange, South London & Maudsley NHS Mental Health Trust, and University of East London (IHHD) – under the auspices of the Greater London Authority; and b) IHHD is the UK partner in an international Knowledge Exchange Programme, *Everybody on board* with Dutch collaborators which aims to share learning to improve the participation and health of disadvantaged people in comparable neighbourhoods in Rotterdam and London.

**Participation in the peer-review process:** The majority of staff submitted in this Unit are invited to review grant applications for over 20 funding bodies including: NIHR, MRC, Wellcome Trust, ESRC, Biotechnology & Biological Sciences Research Council (BBSRC), Stroke

Association, Action Medical Research, Health Protection Agency, The Leverhulme Trust, etc. In addition, they are involved in peer review for over 90 journals including: British Medical Journal (BMJ), The Lancet, Lancet Infectious Diseases, J. of Neurophysiology, British J. of Pharmacology, Drug Discovery, J. of Applied Biomechanics, Gait and Posture, etc.

**Fellowships and relevant awards:** **Cutler** is a member of the Institute of Biomedical Sciences, a leading global authority on relapsing fever and an advisor to the European Food Safety Authority; **Netuveli** is a member of the Royal Society of Public Health; **Renton and Rao** are members of Faculty of Public Health; **Seed** is a Fellow of the Society of Biology, a Member of Council and Company Director of the British Pharmacological Society. Stephensen holds NIHR Clinical Lectureship. **Corcoran** is the founder and Co-Editor of Journal for Herbal Medicine, first published in 2011. **Cutler** is an editorial board member for Clinical Microbiology & Infection and Ticks & Tick-Borne Diseases. **Drechsler** is an editorial board member of the Journal of Orthopaedic & Sports Physical Therapy and Kinesiology Journal. **Harden** is Associate Editor of Medical Research Methodology and Co-convenor of the Cochrane Qualitative and Implementation Methods Group. **Harden** is a member of the NIHR Health Technology Assessment Board.

**Effective academic collaboration:** **Cutler** collaborates with the Medical School in Marseille and Institute for Immunology Heidelberg with regular invitations to Chair and present at international meetings in Europe and USA (e.g. American Society for Microbiology). Led by **Corcoran**, in 2013, MRG was admitted into the London BioNat Network that includes scientists from: UCL School of Pharmacy, KCL, Royal Botanical Gardens, Kew, Trinity College Dublin and several Natural Product companies from the UK. In 2011, **Drechsler** was invited to become a member of the Arthritis Research UK Osteoarthritis & Crystal Disease Clinical Specialty Group (2011) and in 2012 membership to Arthritis Research UK Centre for Sport, Exercise and Osteoarthritis at Botnar Research Centre, Oxford University. **Drechsler** collaborates with Uni. of Southampton, Oxford and Nottingham on Scholl funded project -epidemiology and lifetime risk of foot osteoarthritis and associated lower limb biomechanical factors. **Drechsler & Harden** with colleagues in Psychology convened a joint R&D conference with Newham University Hospital & other local trusts to explore research collaborations. IHHD undertake collaborative research with several academic partners that include: KCL, LSHTM, UCL, MRC Social and Public Health Sciences University of Glasgow. **Outram** is an honorary senior lecturer within Biomedical Sciences at UCL.

**Effective mechanisms to promote collaborative research:** In 2009, **Renton**, one of two expert advisers in Public Health to the GLA London Health Commission also sat on the 'Go London' advisory group (2008-'12), which guided the development of NHS London's Olympic physical activity legacy programme, the Leadership Group for the NHS Vascular Checks Programme, and the DH 2012 Public Health Steering Group. He is a founder member of the think-tank 'Active Communities for Health', which disseminates research evidence to end users to support communities' realisation of their full potential to improve health and wellbeing. We are now well positioned within national initiatives to drive up the quality and impact of research. Our Well London research programme (**Renton**) and our new maternity services programme grant (**Harden**) demonstrates how we have responded to national priorities around health inequalities and access to antenatal care, respectively. **Drechsler** leads successful funding applications to support research into Haemophilia working closely with NHS RF Stephensen funded by The Haemophilia Society and NIHR Clinical Lectureship (2011-2014). The results of their research is informing Haemophilia Outcomes Working Group, UK and, making a significant contribution to policy and clinical guidelines for the improved management of children with Haemophilia. Their research is published in Journal Haemophilia, an international world specialist journal for research into haemophilia. Convened and led by **Drechsler** and Stephensen, a Haemophilia symposium of pan EU collaborators was held at UEL in November 2013 in preparation for a funding application to 'Horizons 2020' in 2014. **Turner** is elected vice-chair and lead UK committee partner in an EU FP7 COST Action 'European Network on Robotics in NeuroRehabilitation' (2011-2015). He is an invited member of Research Taskforce (2013-2015) for International Society of Physical Medicine and Rehabilitation (ISPRM), convened to write a report on 'Global guidelines for robot-mediated therapy for upper and lower limbs'. Also, invited membership to 'Deep-dive workshop on robotics in health and disease' funded by Technology Strategy Board and Industrial Knowledge Transfer Network (Nov 2013). MRG are currently developing research collaborations with the network members, Bruker in Germany and USA and Universidad Veracruzana, Mexico.