

<p>Institution: University College London</p> <hr/> <p>Unit of Assessment: 2 - Public Health, Health Services and Primary Care</p> <hr/> <p>a. Context</p> <p>UCL's submission to UoA2 involves several sections of UCL's Faculty of Population Health Sciences, including the Institute of Epidemiology and Health Care, the Centre for Paediatric Epidemiology and Biostatistics at the Institute of Child Health, the Institute for Global Health, and the Institute for Clinical Trials and Methodology. The key non-academic users and beneficiaries of the research conducted by this unit are:</p> <ol style="list-style-type: none"> 1. Patients and those at risk of disease, who benefit from improved healthcare arising from our work on new treatments, innovative diagnostic and screening methods, more effective disease and risk surveillance, new methods of promoting behaviour change, and community mobilization at both national and global levels. 2. Local, national, and global providers of health care, who benefit from improvements in process and practice resulting from our contributions to evidence-based clinical and population health guidelines, our expertise in continuing professional development for clinical and public health professionals, and the development of monitoring and surveillance tools and databases. 3. Health and social care policy-makers, to whom benefits accrue particularly from our involvement in formulating Department of Health (DH) strategy, contributions to National Institute for Health and Care Excellence (NICE) committees and guideline groups, and our provision of expert advice to overseas governments. 4. The pharmaceutical industry, wherein significant financial impacts arise from our extensive collaboration in clinical trials and pharmacovigilance and post-authorisation safety studies. 5. Charities and nongovernmental organisations (NGOs), with which we engage directly on strategy and programme development. 6. International organisations such as the World Health Organisation, the World Bank and the United Nations, with which we work on formulating international disease surveillance and treatment policy, and who benefit from the resultant production of new international guidance. 7. Governmental policy-makers at many levels, including all Party Parliamentary Groups and Select committees, the Department of International Development (DFID), the Cabinet Office, the Department for Environment, Food and Rural Affairs (DEFRA), and Work and Pensions. <p>Our expertise in the fields of social factors in health, global health, screening, HIV prevention and control, child population health, cardiovascular and mental health, ageing, disability, tobacco control and obesity has allowed us to deliver measurable benefits to these user groups.</p> <hr/> <p>b. Approach to impact</p> <p>UCL expects academic staff to seek out and pursue opportunities to engage with external organisations and key research users in ways that result in direct transfer of expertise and knowledge to the benefit of industry and wider communities. In UoA2 we have promoted this engagement through a combination of active participation in policy-making and national and international consultancy, and a systematic approach to the dissemination of research findings to the general public, key opinion formers and policy groups. These activities are supported by UCL's knowledge transfer and enterprise strategies, revitalised in 2006 with the appointment of a Vice-Provost (Enterprise) and the publication of UCL's Enterprise Strategy in 2011. UCL Enterprise receives hypothecated funding from the HEFCE Higher Education Innovation Fund to support coordination of enterprise operations including the Corporate Partnerships team, the Knowledge Transfer Champion Scheme, and UCL Advances (centre for entrepreneurship). UCL allows all academics to undertake up to 40 days paid consultancy per annum on days when they would otherwise be working; this is supported by UCL Consultants Ltd, who facilitate contracts on behalf of academic staff. These activities are sustained through strategic consideration of how best to engage with non-academic users, and participation is monitored in the staff appraisal system and in the distribution of teaching and administrative load. Knowledge transfer and engagement are among the explicit criteria taken into account in academic promotions.</p> <hr/> <p>i) Working with policy-makers</p> <p>Unit staff have contributed their research and expertise to health policy and practice through engagement with numerous national and international policy and implementation bodies. Senior</p>

staff are, for example, actively engaged in the development of **Department of Health (DH)** strategy. The major DH review *Fair Society, Healthy Lives: A Strategic Review of Health Inequalities in England Post-2010* was prepared by Marmot drawing on UCL's work on social inequalities in health, and contributed directly to the development of inequalities legislation in the 2012 Health and Social Care Bill. Law and Peckham use UCL's expertise in paediatric epidemiology to advise DH on policies relevant to child health and infections in pregnancy screening. Our large scale cohort and record-based research is used by DH to monitor the impact of health policy, as in the case of obesity trends (Mindell) and sexual behaviour (Johnson); to reform the national screening programme for childhood vision problems (Rahi); and to improve the quality of care, notably for people with cardiac disease (Hemingway) and for people with schizophrenia and their families in the community (Nazareth). Our clinical and population-based trials have helped change policies on screening for colorectal cancer (Wardle), influenza vaccination and control policy (Hayward), and the identification of dementia in primary care (Illife). Reviews and evidence syntheses have driven changes in policy on tuberculosis detection in hard-to-reach groups (Hayward), chemotherapy for bladder cancer (Tierney), and the value of screening in the control of chlamydia (Stephenson). In addition, UCL has influenced the National Confidential Enquiry into Patient Outcome and Death (Utley), DH guidance on mass gatherings and influenza transmission (Ishola via HPA report 2011) and the UK Independent Breast Screening Review (chaired by Marmot in 2012 on behalf of the National Cancer Director and Cancer Research UK).

A significant element of our health policy input is achieved through involvement in **DH Policy Research Units (PRUs)**. Impacts delivered via this pathway have included our provision of expert advice about the health and well-being of children, young people and families (the *Children, Young People and Families* PRU, co-directed by Law); important contributions to policy on the management of pandemics (Utley, Director of the *Clinical Operational Research* PRU until 2010); and early cancer detection (*Cancer Awareness, Screening and Early Diagnosis* PRU, Wardle deputy director). Our impacts on health practice are likewise delivered, in part, through both these and other PRUs, including the *Economic Evaluation of Health and Care Intervention* PRU (Hemingway) and the *Public Health Research Consortium* (Law, Power).

Staff membership of and contributions to **NICE** committees and clinical guideline groups constitutes another important pathway to our impacts on national health policy. Law has been Chair of the Public Health Interventions Advisory Committee of NICE since 2005, providing guidance on the effectiveness and cost effectiveness of numerous public health interventions to the NHS and local government. Since 2008, we have contributed directly to more than 12 NICE guideline development and advisory initiatives on topics such as tobacco harm reduction, uptake of HIV testing among men who have sex with men, the management of schizophrenia, dementia care, and reducing inequalities in immunization uptake.

Beyond strengthening the impact of their research on specific health policies, Unit staff have used their expertise in **global and international health issues** to effect broader change. This expertise encompasses managing the health effects of climate change (Costello chaired the UCL Lancet commission, 2009); health inequalities (Marmot, report for WHO Europe on the social determinants of health and the health divide - in progress); and healthy cities (Osrin chaired the UCL-Lancet commission). Our modelling work has influenced global policy on the roll-out of antiretroviral treatment (Phillips), and the monitoring of children's growth throughout the world (Cole). Our trials have impacted on WHO guidelines on the treatment of tuberculosis in Africa (Nunn), the value of community interventions to improve maternal and newborn health (Costello), and when to start treatment of HIV-infected infants (Gibb). These activities have been supported by UCL's Public Policy Unit, which has sponsored events, briefing meetings and parliamentary receptions in association with UoA2 academic staff.

The Unit's encouragement of staff to provide expertise to **overseas governments and NGOs** has yielded measurable impacts since 2008 on 1. HIV prevention (Cowan, Zimbabwe Ministry of Health and Child Welfare; Imrie, KwaZulu-Natal Premier's Office Task Team on HIV prevention; Thorne, UNICEF consultant on paediatric HIV/AIDS care in Uzbekistan, Ukraine and Switzerland); 2. The improvement of maternal and newborn health in Malawi (Costello, Ministry of Health Strategic Plan 2011-2016); 3. Development of human rights indicators (Kett and Tramontano, UN Mission in Liberia); 4. Tobacco control (West, advisor to STIVORO, the Netherlands, and the US Food and Drug Administration); 5. international disability policy (Groce, chair, UN Expert Group on

mainstreaming disability in the Millennium Development Goals, 2010-present); 6. HIV disclosure for children (Sherr, chair, WHO Guideline on HIV Disclosure Counselling for Children Group, 2009); 7. vitamin D and calcium supplementation (Hypponen, WHO expert group, 2012); 8. verbal autopsy guidelines (Fottrell, WHO Health Metrics network); and 9. anaemia in developing countries (Seal, UNHCR Technical Advisory Group on anaemia and Emergency Nutrition Network).

Staff also share their research and expertise with **Government Departments beyond the field of health** to influence broader public policy. Thus staff on the English Longitudinal Study of Ageing carried out briefings contributing to policy on state pension age (Department for Work and Pensions), the costing of social care (DH), and social isolation (Cabinet Office). Others have contributed to the DEFRA policy on climate change (Johnson since 2009), and social isolation (Bartley, Social Exclusion Unit, 2009). The Institute for Global Health (Costello, Osrin, Pagel, Prost) work closely with DFID on approaches to maternal and child health in low income countries.

We have also been involved in various **parliamentary activities**. Johnson was specialist advisor to the House of Lords Ad Hoc Select Committee on HIV and AIDS in the UK (2011), to which Hart, Cortina Borja and Williams also contributed evidence. Blane gave evidence to the House of Commons Science and Technology Select Committee (Dec 2011); McMunn to the Parliamentary Committee on Families and Children (May 2012); West to the House of Lords enquiry into behaviour change and the All Party Parliamentary group report on tobacco control; and Groce to the International Development Committee on disability and development. Researchers from the Lifelong Health and Ageing Unit have contributed to 'SET for Britain' events at Westminster.

ii) **Engagement with practitioners**

Beyond our transfer of expert advice to policy-makers, we work towards realising the potential benefits of our research through our development and delivery of training for non-academic users. There is extensive involvement in **continuing professional development of clinicians and public health professionals** (CPD) in this country and overseas (Bailey, Bedford, Berlin, Brunner, Burns, Freemantle, Hagger-Johnson, Hypponen, Iliffe, Jefferis, McEwen, Mercer, Mindell, Mocroft, Nazareth, Pagel, Pashayan, Phillips, Rahi, Rosenthal, Sabin, Seal, Shahab, Sherr, Stephenson, Steptoe, Tabak, Wade, Wallace, Walters, West). West and McEwen, for example, conduct workshops for stop smoking counsellors three to four times per year around the UK, and during the census period carried out training programmes in more than 15 other counties including China, Chile, and Turkey. The EVIDEM educational intervention for dementia care in the community (Iliffe) is widely disseminated through Community Mental Health Trusts and Deaneries. We are responsible for a number of population cohort studies and engage closely with non-academic users to ensure maximum use of these resources by policy-makers. The Health Survey for England, the English Longitudinal Study of Ageing and the National Survey of Health and Development hold regular **user workshops** in the UK, and Marmot, McMunn, de Oliveira and Steptoe have also contributed to workshops in Warsaw, Ann Arbor, Beijing, and Rio de Janeiro.

UCL staff are also encouraged to contribute to clinical guidelines and recommendations made by **learned societies and professional organisations**. This has included important contributions to guidelines on HIV management developed by the British HIV Association (Phillips, Sabin, Miller, Burns) and recommendations about physical activity in the general public from the British Association of Sport and Exercise Sciences (Hamer, Stamatakis).

iii) **Collaboration with charities**

Engagement with charitable organisations provides another conduit for our communication of key research insights. This includes the establishment of **Weight Concern**, a charity that addresses the physical and psychological needs of overweight people works to develop more effective programs of prevention and treatment (Wardle, Founder and current Clinical and Research Director). We also work with **Positive Action for Children**, a global fund set up to support community initiatives to prevent HIV infection in children (Peckham, Chair) and **Sense**, a charity for the deafblind, on congenital rubella, immunisation, and rubella prevention (Tookey), and advise on the public health strategy on dementia for the **Alzheimer's Society** (Richards). Internationally, our staff have supported the development of NGOs **Sangath** and **Positive People**, which work on the prevention and management of HIV in Goa (Shahmanesh since 2003), and work with **Ekjut** (India) on women's groups (Costello) and the **International Union Against Tuberculosis and Lung**

Disease on tuberculosis programmes world-wide (Nunn).

iv) Collaborative work with industry

We deliver benefits to partners in industry and other health-related organisations through direct collaborations, secondment of expert personnel, and consultancies supported by UCL Consultants. Examples include work with Legal & General on the modelling of cardiovascular morbidity and mortality (Raine); pharmacovigilance activities with Roche and GSK related to HIV/HCV co-infection (2010), Nelfinavir (2009-2011) and Fosamprenavir (2008-11) (Raine); modelling HIV vaccine effects with GSK Biologicals (Phillips); and the provision of advice on HPV vaccine for Sanofi Pasteur MSD (Wardle). We have considerable involvement with pharma companies, including collaborations and educational grants with Abbott, Amgen, AstraZenica, Avid Radiopharmaceuticals, Bayer, Baxter, Boehringer Ingelheim, Bristol-Myers Squibb, Cipla, Gilead, Glaxo, GSK, ITGI, Janssen-Cilag, Johnson and Johnson, Lilly, Merck, Novartis, Pfizer, Roche, Sanofi-Aventis, Serono, and Sherry Plough, and with instrumentation companies such as Zyomyx and GENEActive. Murray is collaborating with BT in a trial to reduce alcohol consumption among their staff, and Nazareth was lead applicant in collaboration with GSK on a post-authorization safety study of the A/California/7/2009 (H1N1) v-like pandemic vaccine.

v) Collaborative fellowships and PhD studentships

Wherever possible, we capitalise on the opportunities that **joint studentships and fellowships** provide to initiate new and consolidate existing relationships with external research users, and have set up a number of direct training collaborations with industry and NGOs. Our collaborative PhD studentships with industry include MRC CASE studentships with Danone Baby Nutrition (Wardle), Cedigem (Nazareth), and AstraZeneca (Hemingway); a BBSRC LINK studentship with Unilever (Steptoe); and other collaborative studentships with AmGen (Copas), Unilever (Hamer) and Servier (Hemingway). We have also established collaborative PhD studentships through the **UCL Impact Awards** programme, in which 50% of studentship funding is provided by UCL and 50% by an industrial or voluntary sector partner. Those partners have included Unilever, the International Longevity Centre UK, and the charities Target Ovarian Cancer and Weight Concern. In the global health arena, students are collaborating with Valid International (an NGO working on acute malnutrition primarily in Africa), Sonke Gender Justice (South Africa) and the Society for Nutrition, Education and Health Action in Mumbai. Devakumar holds a Wellcome Trust Training Fellowship in collaboration with the Nepalese organisation Mother Infant Research Activities (MIRA), and Hall's Wellcome fellowship is in collaboration with the Parent and Child Health Initiative (PACHI), an NGO in Malawi. Previously, Odent and Grigulis carried out their fellowship training in collaboration with MIRA and PACHI respectively.

Secondments - of both staff and students - are likewise used to promote and sustain engagement with non-academic users. Newell was Director of the Africa Centre for Health and Population Studies in KwaZulu-Natal throughout the census period, and Imrie was seconded there as Assistant Director (50-100% in different years). Iliffe is seconded part-time to the Kilburn locality commissioning group to advise on commissioning plans for older people's services. Several PhD students have been seconded to user organisations including the Thomas Pocklington Trust, The Scottish Office, OnePlusOne, and DFID.

vi) Engagement with the general public

We actively promote research communication through **events focused on the non-academic community**. The 65th birthday of the National Survey of Health and Development cohort in 2011 was accompanied by a series of public events including a British Library conference, a Ministerial seminar, and a Longview/Gest seminar for government researchers. The International Centre for Lifecourse Studies has a dedicated communications manager, and has organised a series of policy seminars since 2008 for non-academic users from central Government and the voluntary sector. It has also contributed to public events convened by Help the Aged (2009) and the ESRC (The Global Financial Crisis, Whitehall, 2009). Several members of UCL staff have presented research at the British Association, the Cheltenham and Brighton Science Festivals, the Royal Society Summer Science exhibition and the ESRC Festival of Science in 2008-2013. Staff also engage with parent groups and secondary schools to disseminate research and promote understanding of science. Bedford talks with local groups of parents about childhood immunisation; Thorne makes annual presentations to secondary schools in London, Dorset and Hampshire on HIV; and

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Llewellyn contributes to the British Council 'Science in Schools' programme. Other activities have been supported by the **UCL Public Engagement Unit**, with bursaries for the MaiMwana women's groups photography exhibition, 'Smokescreen' (exploring indoor air pollution through art), 'Listening to us' (which focused on giving disabled teenagers a public voice), and public engagement in the education of tomorrow's doctors.

We have a well-developed approach to ensuring that new research findings are communicated to the public at large through **effective publicity**. We consult with the UCL Media Relations and Press Office and the press offices of our funders to ensure that publication of important research findings is linked with appropriate press releases and media contacts. Media coverage of the Unit's research is extensive. The launch of all major research findings are followed by an internal audit of publicity to ensure appropriate coverage of those findings. For example, a 2013 article in the *Canadian Medical Association Journal* attracted around 400 media items, of which 74% were from the USA. An audit of 2010-2012 media exposure indicated that Unit staff had contributed to media discussion of 89 separate topics. Many of those contributions involved giving multiple interviews and making appearances on radio (Today programme, 5 Live, BBC News 24, World service, local stations) and television (Newsnight, Sky News, CNN, BBC Breakfast, channels in USA, Australia, India and other countries) programmes reaching very wide public audiences, as well as newspaper and magazine coverage. Our research is also regularly featured on health websites and blogs.

UCL has identified a series of Grand Challenges that foster **cross-disciplinary expertise and public involvement**, three of which are aligned specifically with the Unit's research (Global Health, Sustainable Cities, and Human Wellbeing). Our contribution to the University's regular town hall meetings about these –which are open to the public - provide additional opportunities for us to share our research beyond academia. Public engagement activities also draw on the UCL Beacon Project, and staff are encouraged to apply for funds available through the Beacon bursary scheme.

c. Strategy and plans

Strategies and mechanisms which have proven effective means of delivering research impact will be maintained, and we will ensure increased involvement of new staff with those, as well as the development of further impact opportunities arising from the research innovations described in REF5. We will extend our engagement with existing user groups through strategic collaborations, memoranda of understanding and bilateral events, whilst also seeking out new users in industry, the health care professions, and among policy-makers. Our goal is to extend the reach and vitality of our impact through sustained and realistically targeted initiatives supported by UCL systems.

We plan greatly to increase our involvement in research-based **continuing professional development** by using a more structured approach to match expertise with new opportunities. The appointment of new staff, which is driven both by academic excellence and fit with our research strategy and by the likely non-academic impact of their work, will also take account of their capacity to use that work to provide CPD teaching. The newly formed Farr Institute for Health Informatics Research has a specific remit to extend training to non-academic users, and the Faculty of Population Health Sciences is revitalising its approach to CPD. This relates particularly to the restructuring of the Centre for Health Informatics and Multiprofessional Education (CHIME), and an initiative led by Graduate Tutors for taught courses to increase the range of CPD offered through additional short-courses, modular MSc units, and extended distance learning initiatives. We are also exploring with the UCL e-learning environment team (UCLeXtend) the production of structured online programmes to support non-academic users of our population cohort resources with data management, processing and analysis. The Institute of Epidemiology and Health Care has been selected as one of four sections of UCL to pilot a **partnership with UCL Consultants**: a consultant will be embedded within the Institute to work with academic and research staff to identify new opportunities for CPD and consultancy with industry and health care organisations.

An independent report commissioned by the Faculty of Population Health Sciences on **Options for Increasing Policy Engagement and Impact** (published April 2013) emphasises the need to build policy thinking and engagement into existing practices, using the UK Life Sciences Strategy (BIS, 2011) to identify matches between research expertise and strategic issues. We have begun to do this by using the **co-production model** - in which policy impact is built into the research process - as evidenced by projects currently being developed jointly with the Departments of Health and Work and Pensions, DFID, ageing charities and think tanks, and international NGOs. The recent integration of the MRC Lifelong Health and Ageing Unit into UCL provides a further stimulus to our aim of becoming a key resource for ageing policy, as does the decision of the DH to

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use the English Longitudinal Study of Ageing as the benchmark for future developments in social care provision. This approach aligns with UCL's broader Public Policy Strategy, which is being taken forward by the Office of the Vice-Provost (Research). The **UCL Policy Futures Group** (which includes academics from this UoA) is charged with anticipating and responding to government, parliamentary and civil servant needs for policy evidence. The Faculty intends to appoint a Senior Champion for Policy Engagement and Impact whose remit will be to drive the policy agenda through research and teaching.

Nature Biotechnology ranked UCL 3rd in the world (after Harvard and the University of Texas) in **academic-industrial partnerships** in May 2013. However, this activity is unevenly distributed across the Unit at present, with a particularly strong focus on clinical trials, infectious disease and pharmacogenetics. We aim to match this activity in other sections by working with the Faculty's Vice-Dean for Enterprise to identify new industrial partnerships. The new, joint UCL/Oxford **Centre for the Advancement of Sustainable Medical Innovation** (CASMI) will drive the development of new models to accelerate medical innovation and promote their uptake by policy-makers, industry and clinicians. The recently funded **Collaborations for Leadership in Applied Health Research and Care** (CLAHRC, detailed in REF5) will promote further translational work and local health improvement, building on our expertise in improvement studies.

Research from the Unit already attracts great interest among the **general public**, and we are becoming increasingly proficient in harnessing both traditional print and broadcasting media and newer media such as Twitter, YouTube, and social networking sites. Further training of staff less familiar with these methods by more experienced users is planned. The Faculty strategy includes a specific focus on 'citizen science', in which the public are involved directly in data collection and analysis as a means of strengthening the social contract between public, patients and researchers. UCL has recently established a **Science, Medicine and Society Network** that will support and facilitate innovative public engagement and public policy activities; several of the projects initially identified are in the population health area, including ageing in the 21st century, the use and abuse of new social networks, wellness indices and a UCL-Lancet commission on culture and health.

d. Relationship to case studies

The 17 impact case studies submitted by the UoA illustrate key strands of the approach to impact detailed in section b. Several involve **working with national policy-makers**, to promote:

- *Clinical policy and practice research for patient benefit*, including work on childhood visual impairment (UCL02-RAH); studies of the cost-effectiveness of different angina management regimes and the appropriateness of diagnostic procedures for cardiovascular disease (UCL02-HEM); demonstration of the value of neoadjuvant chemotherapy for patients with invasive bladder cancer (UCL02-TIE); and the management in primary care of the physical health of people with schizophrenia (UCL02-NAZ).
- *Public health research for population benefit*, as in work on influenza vaccination policy (UCL02-HAY1); young people's sexual health and HPV vaccination (UCL02-JOH); a new screening programme for colorectal cancer (UCL02-WAR); more effective monitoring of growth in early life (UCL02-COL); chlamydia screening policy (UCL02-STE); and ways of improving tuberculosis detection in hard-to-reach groups (UCL02-HAY2).
- *Policy research*, exemplified by work on the social determinants of health (UCL02-MAR); monitoring the obesity epidemic (UCL02-MIN); and understanding the drivers of long-term trends in mortality (UCL02-RAI).

Our commitment to **working with international policy-makers** to use global health research for patient and population benefit, particularly in low income countries, is illustrated by work on community mobilisation of women's groups (UCL02-COS); modelling studies to establish the benefit of antiretroviral treatment (ART) in resource-poor countries (UCL02-PHI); when to start ART in HIV-infected infants (UCL02-GIB); and establishing optimal methods for treating tuberculosis in Africa (UCL02-NUN). Two of these case studies (UCL02-COS and UCL02-NUN) exemplify our efforts to maximize impact through **collaboration with charities**. Several others have achieved their impact in part by **engagement with practitioners** (UCL02-COS, UCL02-STE, UCL02-RAH, UCL02-MAR and UCL02-NAZ), and one (UCL02-RAI) through **collaborative work with industry**.