Institution: Royal Holloway, University of London

Unit of Assessment: Psychology, Psychiatry, & Neuroscience

a. Context

Research within the Department of Psychology strives to achieve the highest levels of scientific quality, with a view to creating profound impacts for a broad range of non-academic user groups. Research leading to impact is spread across the unit, and includes investigations of **psychological aspects of health and mental health**; mechanisms underlying **language, memory, and attention**; and **perceptual and motor processes**. This research creates impacts on (a) the **health and welfare of individuals** (e.g. people with physical conditions, psychological conditions, and learning disabilities) who experience better quality services and care as a result of our research; (b) **practitioners** (e.g. people working in health, mental health, and social care; teaching, education, and special needs; policing and criminal justice) who adopt best practice as a result of our research; (c) **public policy and services** (e.g. road and transport policy, criminal justice policy, health policy) which are influenced and improved as a result of our research; and (d) **commercial organisations** (e.g. multinational pharmaceutical companies) who rely on our psychological instruments in the development of their products.

b. Approach to impact

The Department's approach focuses on (i) the **engagement of users**; (ii) the **identification of impact opportunities**; and (c) the **use of government, charity, and commercial funding to deliver impact**.

(i) Engaging users. The heart of our approach to impact lies in **developing, maintaining, and valuing our partnerships** with non-academic users and beneficiaries. We recognise that the strongest impact is achieved when research produces findings and products that are relevant, acceptable, and practical to implement in real world settings. Thus, we involve users **at all stages** of our research **across all three of our major research groups**.

In the Clinical, Health, & Social Psychology group (CHS), Pincus' trial of Contextual Cognitive Behavioural Therapy for people with back pain includes an **advisory board of patients**, who advise on acceptability of measures, patient burden, and methodology. She discusses her work regularly with the funding body Arthritis Research UK, which in turn disseminates it to patients in their publication *Arthritis Today*. Fox played a leading role in the national trial of Multisystemic Therapy designed for adolescents on the edge of care or custody, and is now working with the **Departments of Health and Education** to roll out the program nationally. Bradley and Langdon have been working with **major pharmaceutical companies** to develop psychological instruments that enhance quality of life in patients with chronic medical conditions, such as the series of Patient-Reported Outcome Measures validated in over 100 languages by Bradley's team in the Health Psychology Research Unit.

In the Adult & Child Cognition group (ACC), Norbury has developed a **researcher-practitioner network** that meets every term, and which attracts 40-50 teachers, speech therapists, educational psychologists, and policymakers concerned with developmental disorders of language and communication. Further, Norbury's population study of language impairment (SCALES) funded by the Wellcome Trust included extensive discussion with **Surrey County Council** during the writing of the proposal, and has seen regular engagement with their Primary Council (all head teachers of primary schools) and SENCO forums. Likewise, Memon has frequent **grass-roots interaction** with **police, judges, and JPs** through training that she provides on how best to interview witnesses to a crime.

In the Brain & Behaviour group (BAB), Ramnani is capitalising on expertise, equipment and cohorts provided by the **England Cricket Board** to discover how research on cerebellar learning systems may be applied to improve performance in elite athletes. Wann serves on a **scientific advisory committee for Volvo Technology** on the design of in-car driver assistance systems for collision avoidance and frequently interacts with **Transport Safety Officers** of several regional authorities on pedestrian safety.

In addition to these interactions with specific users, all members of staff use **regular outreach opportunities** (e.g. Science Festival, Science Exhibitions) and **media appearances** to raise

awareness of social issues relevant to our research and to reach potential new users. For example, Norbury co-launched the **RALLI YouTube campaign** to provide evidence-based information about language impairment to relevant practitioners, parents, and the public (http://www.youtube.com/rallicampaign). Since its launch in May 2012, this website has had nearly 100,000 views, and has led directly to an opportunity for Norbury to collaborate with a school in the development and evaluation of an interview skills training intervention for teenagers. Similarly, Dalton's appearance on **BBC Breakfast** to discuss her research on distraction and satellite navigation systems led to a new contact from the Society for Navigation, and the opportunity to write a piece for their magazine *Navigation News*.

(ii) Identifying opportunities. We believe that impact can be achieved at multiple stages of the research process, and have mechanisms in place to ensure that we identify opportunities for impact wherever they arise.

First, we identify instances in which **planned research** has the potential for strong user impact, and engage appropriate beneficiaries at an early stage of project development. This identification is achieved through a **rigorous process of internal peer review**, in which experienced investigators review the research plans, beneficiaries, and proposed pathways to impact for all grant applications. This impact planning process led to strong engagement with Surrey County Council during the development of Norbury's SCALES project, which in turn resulted in a high level of user support for the project, and will ensure timely and widespread dissemination of findings and implementation of recommendations.

Second, we identify aspects of our **previous or present research** that have applied value, and initiate new projects with non-academic beneficiaries designed to generate specific impacts. This identification process is achieved through research groups, user networks, or via consultation with the Impact Officer in the department. For example, Langdon's fundamental research on cognitive impairments in multiple sclerosis led her to develop the BICAMS project (Brief International Cognitive Assessment for MS) with Bayer Healthcare, which will enable standardised cognitive assessments in MS to be performed by healthcare staff with no specialist neuropsychological training. Such assessments are presently available only in specialist MS centres.

Third, we identify instances in which **new findings** have the potential to inform debate, guidelines, and policy, and disseminate that information through campaign groups, policymakers, and the media. This identification process is achieved through research groups, user networks or via consultation with the Impact Officer in the department. For example, when Pincus' research demonstrated that psychological factors predicted long-term outcomes in people in the early stages of low back pain, she initiated a programme of dissemination to key beneficiaries. This engagement ultimately led to a revision of the European and NICE guidelines for treating low-back pain, such that they now recommend cognitive behavioural therapy in addition to physiotherapy.

(iii) Delivering impact. Once we have identified opportunities for impact, we capitalise on funding and infrastructure available in the institution to realise that impact (see *Strategy and Plans*), as well as charity, government, and commercial support. For example, **ESRC Knowledge Transfer funding** was instrumental in allowing Memon to deliver standardised procedures for video identification parades to all UK police departments, and in allowing Wann to disseminate speed awareness training software to industrial, local authority, and charity organisations. We also identify instances in which our research generates intellectual property suitable for commercialisation, and work with colleagues in the University Research & Enterprise unit to develop patent applications, licensing arrangements, and/or spin-off companies as appropriate. Our success in licensing Bradley's Patient-Reported Outcome Measures led to the development of **the spin-off company HPR Ltd**., which during the review period has generated turnover of over £4m.

c. Strategy and plans

During the review period we have developed a coordinated strategy for enabling and achieving impact that operates across four levels (see below). We anticipate that this strategy will assist in the development and consolidation of impact case studies for Langdon, Norbury, and Pincus in the next REF cycle, and will result in at least 80% of our staff members engaging in impact activity by the next census.

i) Capacity building and training. We recognise the importance of equipping staff with the relevant knowledge and skills they need to deliver research impact. We have therefore developed

a **one-day annual training event** for all staff that includes: (a) designing impact in a research proposal; (b) engaging users in the design and execution of research; (c) training in media and public engagement; and (d) understanding and establishing networks through which impact can be realised (e.g. NHS, Local Education Authorities). To support the longer-term implementation of these strategies**, two administrative posts of Impact and Media Officers** are included in the staff workload model, which address impact and outreach responsibilities, respectively. This management structure facilitates organisational development in the area of research impact, and ensures that gains made through staff training will be maintained over time.

ii) Staffing strategy. The creation of impact is embedded in **our staffing policies and strategies**. External engagement, knowledge transfer, and impact are part of the University criteria for academic promotion up to Professor and in professorial banding. Our PhD students and research staff are also encouraged to capitalise on the impact training that we offer, and a very high proportion of these individuals participate in outreach activities such as our annual Science Festival and Live Science Exhibitions at the London Science Museum (Zanker, Wann, Tsakiris). Finally, the Department considers significant research and impact commitments in the allocation of teaching and administrative tasks, and reviews these allocations regularly.

iii) Funding. We **pump prime** impact creation financially through several routes. The University returns a portion of QR income to principal investigators each year to support activities leading to impact. Further, seed corn funding of up to £5k is available from the University for research and/or networking initiatives that lead to user impact, and the University Gateway Fund provides up to £40k to allow academics to investigate the commercial applications of their research. This fund has been instrumental in allowing Walker to develop a new 'app' to assist people with macular disease in their reading. Finally, the department and University are increasingly **allocating studentships on a strategic basis** to support impact, for example by prioritizing applications with matched funding from an external partner.

iv) Infrastructure. Staff members are supported by the University Communications and External Relations office, which together with the Science Outreach office assist us in reaching the general public and other users through the media and large-scale events (e.g. our Science Festival which attracts several thousand people each year). The Research Business and Development Manager of the Research & Enterprise (R&E) Office advises on opportunities for impact, negotiates contractual terms and agreements, and assists in securing finance for commercial projects. Finally, staff members are supported at institutional level by the VP (R&E) and the Science R&E Committee which oversees the Science Faculty impact strategy. The research information system PURE is used to record details of impacts along with links to research projects, outputs, and other activities.

d. Relationship to case studies

In order to demonstrate the embedding of impact activities across the department, we have chosen to describe one high-quality example from each of our research groups: Bradley (CHS), Memon (ACC), and Wann (BAB). These case studies illustrate (a) **how we engage users**; (b) **how we identify opportunities for impact**; and (c) **how we have used internal and external support to promote impact**. In all three case studies, the lead researchers had a long history of **creating deep partnerships** with non-academic beneficiaries, through engagement on several levels, from **grass-roots interaction** with patients (Bradley), police officers (Memon), and road safety campaigns (Wann) to **higher-level interactions** with commercial bodies (Bradley, Wann) and government departments (Bradley, Memon, Wann). Similarly, in all three case studies, the lead researchers capitalised on critical aspects of our **infrastructure** to deliver impact. Bradley has worked closely with colleagues in the University Research & Enterprise office for several years, both in the formation of the **spin-off company** HPR Ltd and in the more recent formation of the Health Psychology Research Unit, a non-teaching research centre based in the Enterprise building, designed to enhance the significance and reach of Bradley's impact on the lives of patients with chronic medical conditions. In contrast, both Memon and Wann have benefited from specific departmental initiatives to realise their impact, in particular use of our **rigorous process of internal peer review** to develop successful applications for **ESRC Knowledge Transfer funding**, and consequent **reductions in their workload** in other areas to deliver on those projects.