

Impact template (REF3a)

Institution: University of York
Unit of Assessment: 4, Psychology, Psychiatry and Neuroscience
a. Context

Research in Psychology, Psychiatry and Neuroscience at the University of York is conducted by members of the Department of Psychology and a proportion of researchers appointed to the Hull York Medical School (HYMS). Throughout the REF period, the Department’s overarching research strategy has been to develop strong and well-resourced research groups which integrate psychological theory in selected areas with *neuroscience perspectives* and *matters of significant practical importance*. The consistent application of this strategy coupled with strong departmental and institutional support has generated impact for a range of non-academic user groups, beneficiaries and audiences. Six examples are presented in the table below, chosen to illustrate the range of the Department’s impact-generating activities.

Users and beneficiaries	Researchers and group	Main types of impact	Examples of impact
<i>Case study 1.</i> Children, parents, teachers, educational psychologists and related professionals	<i>Snowling, Hulme, Hatcher, Henderson</i> Developmental	Impact on public policy, practitioners and services	Contributions to Rose Review (2009) and Phonics Screening Check (2012); Intervention involving 382 primary schools.
<i>Case study 2.</i> Deaf adults, children and their families; NHS managers and policy makers; health professionals	<i>Summerfield</i> Perception & Action	Impact on NHS policy and services; a new apparatus commercialised.	Contributions to the Peninsular Technology Assessment Group which informed the NICE Guidance on Cochlear Implantation (2009).
<i>Case study 3.</i> A major manufacturer of medical imaging equipment	<i>Green</i> Neuroscience	Industry investment in R&D; a new product commercialised.	Internal investment of >€2m by Bruker Corporation; 5 patents filed; <i>parahydrogen</i> generator marketed.
4. Prison and probation staff; public safety	<i>McDougall, Clarke</i> Social Interaction	Impact on practitioners and services; impact on public policy	ADViSOR project for risk assessment of serious offenders in <i>National Offender Management Service Risk of Serious Harm Guidance (2009)</i> .
5. Elderly, disabled and demented adults	<i>Monk</i> Cognition & Communication	Impact on health and welfare	Interdisciplinary project. Usable home constructed and demonstrated through training & consultancy.
6. People with head injuries; relevant professional groups	<i>Young</i> Social Interaction	Impact on practitioners and services	Improved procedures for assessment for re-habilitation by the Brain Injury Rehabilitation Trust.

b. Approach to impact

Impact during the REF period has been achieved by:

- actively creating and cultivating networks of professionals, parents and welfare charities to facilitate research and translation;
- involving users and beneficiaries in research from an early stage in order to ensure that the groups were committed and that goals were practical and achievable;
- obtaining funding from external sources, including relevant charities and industry, and complementing this with internal funding (e.g., pump priming, PhD studentships) to ensure continuity where necessary;

Impact template (REF3a)

- supporting the research by providing key researchers with significant relief from teaching and administrative duties, the provision of rent-free space and support for industrial contracts and patents from the University's Research & Enterprise Office;
- creating Centres or hubs within the Department to manage projects, provide points of contact for non-academic users, maintain the involvement of users through newsletters, workshops and web sites, and receive regular feedback;
- engaging actively with government departments and other policy makers to ensure that research was noticed and acted upon.

This approach is illustrated in relation to case studies 1-3 in section **d** below and in the impact case studies themselves. In relation to the other three areas of impact highlighted in the table, impact area 4 arose from the strategic appointment of a former Head of the Prison Psychology Service (*McDougall*) as Co-Director of the Centre for Criminal Justice, Economics and Psychology with funding of over £0.75M from the Home Office. The ADVISOR project demonstrated continuity of behaviour in serious violent and sexual offenders between the period leading up to release from prison and the period following release, making it possible to identify individuals on probation who were most likely to re-offend. *McDougall* received relief from teaching and administrative duties to lead this project which is now mentioned in Guidance issued by the Ministry of Justice.

Impact area 5 was an interdisciplinary collaboration between Psychology (*Monk*), Computer Science and Electronics which involved creating and demonstrating a home environment that used technology to facilitate independent living for the elderly and disabled. This *Centre for Usable Home Technology* was established in 2003 within a campus house provided by the University of York and supported by The Joseph Rowntree Fund. The Centre now involves both York and Newcastle Universities and mounts regular events for a wide range of charities, local councils and technology companies.

Impact area 6 resulted from collaboration between Andrew James, a consultant clinical psychologist with the Brain Injury Rehabilitation Trust (BIRT), and *Young*. The collaboration involved a study of more than 300 head-injured patients, combining information from the BIRT's 9 week initial assessment programme with neuropsychological measures in order to identify risk factors for aggressive behaviour and sexual disinhibition. The study has led to improved assessment procedures for patients that are now being evaluated prospectively.

c. Strategy and plans

Our impact strategy has been refined in several ways as a result of our experiences during the REF period. We believe that the most effective impact arises when talented individuals work within strong groups undertaking the full range from fundamental to translational research. In our view, it is vital for researchers involved with translation to conduct their work within a strong theoretical framework – and to contribute to the development of that framework – if the translation of their research is to be original, relevant and well-informed. A productive interaction between theory and translation is demonstrated in each of our case studies.

We have learned the importance of building the evaluation of impact into the design of projects from the outset and will ensure that this is done consistently, using methods that are as rigorous as those employed in fundamental research. As the influence of research often begins on a small scale and locally (e.g., in the same schools or clinics as were involved in the underpinning research), we will therefore ensure that positive findings are followed through and scaled up to help achieve lasting impact.

Factors listed in section **b** remain as important as ever (e.g., involving end users in the design of the research, maintaining their involvement throughout the project, and providing significant institutional support including continuity and reduced teaching and administration for key staff). With that in mind, the Department has established an Impact Fund which makes £20,000 p.a. available to support impact proposals that are exciting and achievable whilst also being rooted in our main research areas. The Department holds two annual away days in which discussions of impact occupy at least one half-day per year. Annual Performance Review, workload distribution, internal seminars, and lab groups maintain a strong focus on impact.

The Department of Psychology has always included potential for impact as a consideration when making appointments. It continues to do so. Recent appointees to HYMS in the area of

Impact template (REF3a)

neuroscience (*Baseler* and *Whittington*) also have strong plans for impact, outlined below. Within our **Perception & Action** group, *Evans* is investigating the detection of abnormalities by radiologists as a perceptual and attentional task, while *Baseler* and *Morland* are studying how plastic brain changes that follow visual field loss may help or hinder new restorative treatments for eye disease. *Wade* is working with colleagues in Biology on the genetics of disorders affecting the development of the visual system, including epilepsy and Parkinson's disease. In **Cognition & Communication**, *Tipper* aims to promote a healthier lifestyle in children and adults by developing computer games to bias preference and choice implicitly by manipulating visuomotor fluency. *Jenkins* will explore the strong potential of his work on automatic face recognition while *Jefferies* is investigating the potential of transcranial direct current stimulation to facilitate rehabilitation in aphasia. In research spanning **Development** and **Cognition**, *Gaskell*, *Henderson* and *Whittington* will investigate the role of sleep in memory consolidation and the role of sleep disturbance, including nocturnal seizures, in a range of developmental disorders. Research spanning **Development** and **Social Interaction** involving *Meins*, *Over* and *Henderson* will evaluate cognitive and social interventions in a range of developmental abnormalities. The **Neuroscience** group led by *Green* and *Duckett* (Chemistry) will continue to translate their pioneering work on hyperpolarisation techniques in NMR and MRI into impact on human medical imaging.

d. Relationship to case studies

1. The impact case study on *Improving the assessment and teaching of children with reading and language difficulties* demonstrates a commitment to impact in the Department going back 20 years. The impact on children, parents and professionals was facilitated by the appointment of an educational psychologist (*Hatcher*) to work with *Hulme* and *Snowling*, and by the creation within the Department of Psychology of a Centre for Reading and Language which provided an assessment clinic and acted as a hub to manage a network of teachers and other collaborators. Space was also provided within the Department for staff of the Dyslexia Institute and for the Institute's remedial clinic. The research received high levels of support from research councils and charities combined with substantial internal investment in facilities, time for the key researchers and internally-funded PhD students. The work was characterised by a commitment to evaluation studies of high quality and rigour (using RCTs) and active engagement with government departments and policy makers.
2. The case study on *Policy and practice in the provision of cochlear implants* stemmed from the appointment of a hearing researcher (*Summerfield*) who was already involved with and committed to influencing policy and practice in health care. Again the research was of a high methodological standard. The work has been followed up with institutional funding of a postdoctoral researcher and major investment in an auditory laboratory to trial equipment which is allowing clinicians to assess the ability of patients to localize sources of sound, track moving sounds, and identify spoken words in the presence of interfering sounds.
3. When the York Neuroimaging Centre (YNiC) was established in 2005 its Director (*Green*) was charged with facilitating fundamental research, developing new lines of interdisciplinary research, and creating impact through links with industry. YNiC has worked with Lodestone, Alliance Medical, 4D Neuroimaging and, most recently, Bruker. The fundamental discoveries in *Hyperpolarisation in magnetic resonance imaging* hold the prospect of radical improvements to the sensitivity of clinical imaging combined with the ability to image a wider range of molecules than is currently possible. Impact was facilitated by the University's Research & Enterprise Office which provided extensive support in relation to patents and commercial contracts. The impact, itself, stems from investment by the Bruker Corporation in research and development linked to York's hyperpolarisation research and the marketing of a new commercial product.