

Institution: University of Northampton

Unit of Assessment: 3 – Allied Health Professions, Dentistry, Nursing and Pharmacy

a. Context

The University of Northampton's strategic plan, *Raising the Bar*, demonstrates the University's commitment to purposeful research that leads to impact with both reach and significance. In line with this, one of the aims of the School of Health's Research and Enterprise strategy states that research should be '*purposeful and applied in nature*'.

Researchers within this submission and the School of Health more generally engage with a wide range of end-user groups and beneficiaries, both locally and nationally. For both the Biosciences and the Mental Health and Wellbeing research group impacts from such research include those on health and welfare; on society; on the economy; on public policy and practices; on practitioners and services; on commerce. Due to the applied nature of the research undertaken, the main beneficiaries and end users are the NHS and other health and social care providers such as charities; patients, their carers and families.

b. Approach to impact

Recognising and developing impact is central to the research undertaken in the School of Health which, because of its applied nature, is designed to influence service delivery, health and wellbeing of the population and/or individual or public health. There are several approaches that have been used to ensure that research undertaken fulfils its purpose and realises its full impact. Three examples of these approaches are, firstly, a School of Health dedicated Innovation and Enterprise Co-coordinator supports academics in assessing potential impact and commercialisation opportunities for staff research outputs in terms of IP and facilitating interaction with relevant potential industrial partners. Secondly, when undertaking commissioned research, usually for NHS trusts or local authorities, the proposal is co-designed and co-produced with the commissioner thus ensuring that the final output or recommendations are relevant and useful to the commissioner and influence, for example, policy decisions or service delivery. Thirdly we engage service users and their carers into the research process at all stages including proposal developments, research groups and dissemination activities.

Service improvement studies and research leading to commercialisation are two of the main categories of research conducted in the School of Health and both of these lead to impact.

- a) For service improvement studies impacts include: improvements in health and wellbeing of patients and their carers; economic benefits by reducing social care costs; improvement in services for patients. One example of this is the case study *Improvements in services enabling people of working age to reintegrate into the community after a stroke*. Another example is a research project on binge drinking in young people undertaken for the Northamptonshire Drugs and Alcohol Action Team, the results of which were presented to the National Treatment Agency as an example of good practice and which led to changes in policy together with improvement of services in Northamptonshire to support young people who binge drink.
- b) For research leading to commercialisation, of which the case study *Genetic test to help athletes and others avoid common sports injuries* is an example, impacts include: those on health and welfare in terms of new markers of risk factors for disease or injury being described; a commercialisation product being developed and the underpinning research continuing to inform further developments. Another example is the research into the effect of an essential oil vapour (now trade marked as Citri-V™®) on micro-organisms that has led to a patent application and is in the process of further commercialisation.

Engagement with users and beneficiaries

Public awareness, public understanding and public engagement are key concepts for applied health research. Service users' and carers' participation in research is encouraged at all levels and within all projects. Since 2004 the School of Health has had a well-established Service Users and Carers Group (SUCG) which has been involved in a number of research projects, as lay readers of proposals, developing material such as consent forms and as researchers. As well as engaging this group, outputs by individuals in this submission (e.g. Sixsmith) relate to specific groups of service users (e.g. those with long term neurological conditions).

An example of engaging service users and beneficiaries in the research process is the development of a Dementia Research Network (DRN) which is hosted at the University. This group undertakes research that reflects local priorities and the national agenda. All work undertaken by

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DRN is underpinned by the 'voices' of people with dementia (PwD) and their carers, who are actively engaged in both research management and conduct. The membership of the group is wide ranging and includes representatives from the local clinical commissioning groups, an independent hospital charity, NHS mental health and acute trusts, Northamptonshire Alzheimer's Society, and the local authority. The programme of studies seeks to explore the person, social and care related experiences, and hopes and expectations of PwD and their carers. One of the major projects resulting from involving PwD and their carers is the development of a community-based social intervention for early-onset dementia patients and their carers designed to promote social connection and normalisation. Although this has been in place for a short time (since July 2013) there has been excellent feedback from the participants who have been actively involved in the development of a trans-national bid for funding which will be submitted in 2014. The university has also signed up to the national Dementia Declaration Action Plan (http://www.dementiaaction.org.uk/members_and_action_plans/758-the_university_of_northampton).

Researchers in this submission also engage with local companies to realise impact from their research. Since 2008 the School of Health has been involved with two Knowledge Transfer Partnerships (KTPs). One was with a food company from 2009 to 2010 (Prof. Phillips and Dr Stuart Allen from the Biosciences research group) and the other was with a local care home organisation from 2010 to 2012 (with Adrian Newman and Dr Sue Allen who are not part of this submission). Both KTP associates went on to be employed in the same type of industries, the former delivering food safety training across the EU and the latter managing a large care home organisation in India.

A monthly seminar series is one mechanism whereby research undertaken in the UoA is disseminated to a wide range of beneficiaries. Since their inception in 2008-9 over 1000 individuals have attended these seminars (some on more than one occasion). Of these 45% are NHS employees, 10% are members of the general public, and 22% from a range of organisations including local government, the fire service and charities. This level of interest demonstrates that the research being presented is of relevance to a range of end-users. Attendance at seminars has led to a number of collaborations and outcomes. For example:

1. Attendance by the chair of the shadow (2012-13) Northamptonshire Health and Wellbeing Board (HWB) led to a seat on the board for the university (held by the Vice Chancellor, with Prof. Phillips as substitute) which facilitates the integration of research into the strategic plans for the HWB;
2. Attendance by members of Northamptonshire LINK led to a joint tender for Healthwatch Northamptonshire as a social enterprise, 51% owned by the university (www.healthwatchnorthamptonshire.org) thus strengthening the links with service users and the public and facilitating their integration into research and service evaluation projects;
3. Attendance by the Consultant in Public Health led to the commissioning a series of public health cancer projects including one on walk-in chest X-ray screening which resulted in a conference presentation (43rd World Conference on Lung Health of the International Union against TB and Lung Disease, Kuala Lumpur, November 2012) and an output in 2013 in the *Journal of Public Health* (DOI. 10.1093/pubmed/fdt104).
4. Attendance by a senior member of Northamptonshire Fire and Rescue Service led to a scoping study relating to health, fitness and nutrition of operational fire fighters which helped shape a programme of wellbeing which, according to the commissioner 'has had a definite impact, as we have seen improved fitness levels, decreased long term absence and a greater awareness of wellbeing issues'.

Institutional resources

Institutional and School resources are available to support individuals and projects which have potential for developing Intellectual Property (IP) and impact more generally. Both of the case studies in this submission have benefited from this investment. University funds have been available to facilitate the collection of supporting evidence for impact case studies via a university-wide REF investment fund and this has been used for the case study *Improvement of services enabling individuals to live in the community post stroke*.

The School has monies set aside for supporting the development of IP at a local level. One of the case studies (*Genetic test to help athletes and others avoid common sports injuries*) has benefited from such monies by payment of commercialisation development costs and associated fees. Another patent, with Phillips as a co-inventor, (UK Patent Application No. 0809935.0:

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Antimicrobial citrus essential oil blend vapour) has been fully supported financially from both University and School funds.

The Marketing and PR department at institutional level ensure that research is disseminated appropriately to relevant media. This active engagement with the media has resulted in several pieces of research relating to outputs in this submission have gaining the interest of local and national media. For example Phillips has appeared on a regional television news programme relating her research on natural antimicrobials to the general public (BBC Look East) and Raleigh's research has been reported in national newspapers (Sunday Times), thus demonstrating the relevance of the research undertaken by these individuals to the general public.

c. Strategy and plans

The concept of impact is embedded within the school's Research and Enterprise strategy which states that staff should engage in

..... high quality applied health and social care research leading to high quality outputs with an impact on the local, national and international communities

The operational plan that supports this aim and ensures that the impact of research undertaken is monitored includes:

- Building awareness of research projects within the health and social care community using a range of tools including social media (https://twitter.com/Health_UoN : <https://www.facebook.com/SchoolOfHealthTheUniversityOfNorthampton>) as well as academic dissemination activities such as the monthly research seminar series;
- Ensuring that patient and public engagement (PPE) is an integral part of all research projects, engaging SUCG and other links into the community, for example via Healthwatch Northamptonshire;
- Routinely following up on the recommendations of research projects with the end-user (such as a NHS commissioner, government bodies, research councils or a charity) at regular intervals after project completion and keeping records of any impact ensuing such as changes in policy or service delivery, evidence of intervention effectiveness;

Integrating impact thoroughly into the research plans of individual staff members by setting personal objectives through the annual review process and incorporating goals for research impact and supporting evidence as well as income and outputs.

d. Relationship to case studies

The selected case studies represent two models of achieving research impact i.e. commercialisation and research leading to service improvement. They also represent two ways in which the University has supported the development of case studies. In one the university underwrote commercialisation costs and fees and in the other it provided research assistant support for following up the evidence for the impact.

Commercialisation is one measure of impact of fundamental research and may be measured in terms of profit, effect on the health and wellbeing of the population, reduction in treatment costs or in disease burden. The Biosciences group have two commercialisation projects, one of which forms the basis of the case study *Genetic test to help athletes and others avoid common sports injuries*. In this case both the fundamental research and subsequent commercialisation is in collaboration with researchers from University of Cape Town (Prof M. Collins) and costs have been shared. In the case of the other project, the University fully owns the IP, and all costs have been met by the School thus emphasising the importance of IP development to the research base.

Research and evaluation into interventions and treatments are an important part of providing the health and social care community with evidence to underpin practice. This impact can also be measured by the effect on the health and wellbeing of the population, reduction in treatment costs or in disease burden but also by changes in policy and guidance from national bodies. The second case study (*Improvement of services enabling individuals to live in the community post stroke*) is an example of research impacting on changes in service delivery. Subsequently the research continues to have an impact on the growth of services developed and supported by the Stroke Association across the UK. The results of the research has informed the Stroke Association and others on issues such as return to work and community integration services as they attempt to support individuals with a condition that costs the UK economy £7billion each year.