

<p>Institution: Nottingham Trent University</p>
<p>Unit of Assessment: C26 Sport and Exercise Sciences, Leisure and Tourism</p>
<p>a. Context</p> <p>The Sport, Health and Performance Enhancement Research Group (SHAPE) has generated impact from its research work for a range of non-academic user groups. These groups include sporting bodies (e.g., English Institute of Sport, Australian Institute of Sport, High Performance Sport New Zealand, Antigua National Olympic Committee), commercial companies (e.g., Nestle, EA Sports, Clasado Ltd, Natural Alternatives International), health providers (e.g., NHS Nottingham City) and government agencies (e.g., Department of Health, Ministry of Defence, UK Sport). The main beneficiaries of our sport research include elite and sub-elite athletes, hockey umpires and sport policy makers; with the impact relating to the influencing of professional standards and training and the use of our research findings to define best practice and formulate policy. Our health research benefits overweight/obese individuals, trans-tibial amputees, pregnant/post-partum women, military recruits, asthmatics and the elderly; with the impact relating to improved health outcomes and the development of health related practices and resources. Those who benefit from our performance enhancement research include elite and sub-elite athletes, school children, Michelin starred kitchen and front of house staff and the horse and rider; with the impact relating to influencing professional standards and training, the use of research findings to define best practice and influencing of the practitioner debate. Our two impact case studies stem from the work of our Performance Enhancement sub-group, and demonstrate significant impact on elite athletic performance worldwide. The nature of their impact has been to change practice, formulate policy and inform training.</p>
<p>b. Approach to impact</p> <p>SHAPE has made use of University support, expertise and resources to provide support to its staff to deliver impact in the following ways: support for sabbaticals, equipment and resource procurement, appointment of research associates (via the University's Strategic Investment Fund), grant alerts from the University Charity and Industry Officers (supported by the HEIF Research and Innovation Fund) and provision of contingency funding for collaborative travel and networking. Some examples of these can be seen in REF5.</p> <p>Engagement for Impact</p> <p>SHAPE has worked to increase the impact of its health related research by engaging with regional agencies focused on health promotion that has led to our research being integrated in to projects. The Health sub-group created links with the East Midlands Government Office for Public Health (Sarah Quilty, GOEM; 2008-2010, £42k), focusing on the use of exergaming to engage children in physical activity. The research featured on BBC News Round (2nd April 2009) and reported to the Department of Health (November 2011) giving recommendations that exergames become part of the practitioner's tool-kit. Interim findings of the project were included in the Chief Medical Officers Annual Report (2008). SHAPE worked alongside the Community Safety Project Officers in Rushcliffe Borough Council, catering managers for Nottingham City Council Residential Care Services and the Health Promotion Specialist from Nottingham Trent University to develop innovative public health promotion strategies relating to nutrition, smoking cessation, personal safety, and impact of drug and alcohol misuse.</p> <p>Investment and Funding</p> <p>SHAPE, with assistance from the NTU Research Grant Capture Team, secured funding to evaluate the Fit-for-Work programme for the Leicester Associate Director for Public Health (Health, Work and Well-being; Mandy Wardle). Funding from HEIF investment has also supported individuals to engage in knowledge exchange with private sector companies and to explore possible exploitation of research. For example, SHAPE has used this funding to create a business development strategy that was implemented by Derby Rugby Football Club.</p>

Impact template (REF3a)**Influencing Policy**

To develop relevant and policy changing research in equine welfare, SHAPE works in collaboration with a range of external partners. For example, NTU has full membership of the National Equine Welfare Council (NEWC), an organisation providing a communication forum to equine organisations, businesses and charities to raise equine welfare standards nationwide. This has enabled SHAPE researchers to complete research to influence policy with respect to the implementation of the Animal Welfare Act 2006. SHAPE researchers have conducted a survey of Local Authorities to assess the current position and provide evidence for NEWC to lobby the Department for Environment, Food and Rural Affairs for support. NTU has also provided funding and facilities to re-home a group of ponies (September 2012) to highlight the developing equine crisis and has worked with the Press Office to release news items via local radio and the website.

Dissemination and Collaboration

Staff are supported by experienced and successful academic and professional support staff to develop the impact of their research through: workshops; mentoring and skill development sessions. Presentations highlighting best practice and current research opportunities are a regular part of SHAPE meetings and Away Days. Financial support is also provided to allow staff to attend conferences, networking events and end-user meetings to maximise the impact of their research. There is ample evidence of this from the beta-alanine case study (case study 1) as Dr Sale was awarded a sabbatical, which afforded him the time to disseminate the findings of research on beta-alanine through manuscripts, meetings with end users and through the International Congress on Carnosine in Exercise and Disease. Funding was also available for Dr Sale to attend meetings with a focus on increasing the externality and impact of the beta-alanine research (e.g., with the Australian Institute of Sport, High Performance Sport New Zealand, Natural Alternatives International and Nestle Ltd at these conferences).

SHAPE researchers engage and develop relationships with key users in a variety of ways. These include memberships of committees and panels (e.g., Dr Hall, NEWC; Dr Sunderland, Chair of the England Hockey Youth Committee); research dissemination through multi-media; articles written in industry magazines and books (e.g., Mr Parker's book "5 Essential Ingredients of Business Success. Stories and Lessons from 3 of the UK's Greatest Restaurants"); academic and corporate presentations (e.g., Dr Hunter to Clasado Ltd and Mr Parker to Gedling Leisure Services and Southwell Racecourse); hosting of Research Showcase events and the Annual School Research Conference, to which end users are invited. There exists evidence of the value of our research to end users through the development of relationships beyond preliminary work. For example, SHAPE has supported Notts County in the Community; providing research to inform monitoring and evaluation of men's health programmes such as Motivate, Go-4-it, On-the-Ball, and Active Schools programmes. This collaborative research led to funding (£50,000) being secured from the NHS Nottingham City Trust, in collaboration with other departments in the University, to deliver men's-health strategies in association with Notts County in the Community. The evaluation undertaken by SHAPE enabled Notts County in the Community to successfully tender for a further £250,000 funding from NHS Nottingham City.

c. Strategy and plans

SHAPE has one overarching strategic aim for impact, which is to impact positively on performance and health through the delivery of high quality services and consultancy underpinned by our excellent research.

This aim will be achieved by: (1) staff considering the impact potential of their research at the time of research design; (2) engaging end-users in research design to address specific requirements; 3)

Impact template (REF3a)

involving the Press Office at the early stages of the research, such that they can maximise dissemination of the research; 4) developing collaborative networks to maximise the reach and significance of the impact of our research.

Implementation

Current examples of our strategic approach to impact development that will extend into the following REF cycle include: (1) SHAPes work with NTU's Press Office led to Dr Elliott-Sale's postpartum weight management project being endorsed by the Royal College of Midwives (their General Secretary "We welcome this research, especially as it will be presented in a popular format that will be accessible to a broad range of women from all socio-economic backgrounds. There is a real need to address the issue of obesity, and this study indicates this area is particularly important for women") and the social media group Netmums. Nottingham University Hospitals are now using the training programme from this study to contribute to post-natal health. Building on this, SHAPE has received a grant from NHS Nottingham City (£33K) to examine the guidance on exercise following pregnancy; (2) SHAPE researchers have engaged directly with stakeholders and end users, which is leading to emerging impact in clinical practice. For example, questionnaire-based data collected from infantry recruits on the incidence and severity of responses to climatic conditions for the Army Recruiting and Training Division is currently being considered in the development of a screening tool for use in Primary Healthcare and (3) Cross-School collaborations within SHAPE are researching horse and rider safety and performance (e.g., mathematical modelling of equine jumping with implications for falls). Similarly, collaborations with the John van Geest Cancer Research Centre are emerging to examine the use of exercise and nutritional intervention strategies to improve the immune function, health and wellbeing of cancer patients in preparation for novel immunotherapies (this has formed the basis of several high-value research grant applications).

SHAPE also plans to use the website (www.ntu.ac.uk/shape), multimedia (e.g., @NTUSciTech), and all other appropriate media channels as platforms to demonstrate impact. SHAPE will build sustained relationships with clients with whom consultancy work is undertaken to develop further activities which enable a range of end users to benefit from the research work.

d. Relationship to case studies

Case study 1 details how we have taken the results of our research in nutritional supplementation to develop significant impact provided to elite athletes worldwide. This has stemmed from our approach to impact. The research team were given financial support and time to disseminate research findings directly to practitioners engaged with athletes at the elite level and with commercial companies, where the team were engaged in the design, appraisal and development of strategies for supplement adoption. Case study 2 evidences the use of specific acclimation protocols, cooling strategies and training programmes to maximise performance in hot environments. This case study also provides evidence of SHAPes approach to impact that has enabled the specific impact to be delivered with QR funding support being provided for the original research and through investment in the GPS technology required to complete the research. Dr Sunderland was also supported through workload management to provide the time to engage directly with end-users, using research presentations and meetings.