



Government Response to the House of Lords  
Select Committee on Science and Technology  
Report of Session 2012-13

“Sport and exercise science and medicine:  
building on the Olympic legacy to improve the  
nation’s health”

Presented to Parliament by  
the Secretary of State for Health  
by Command of Her Majesty  
October 2012



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## Recommendations and Responses

The Government welcomes the Committee's<sup>1</sup> report and its focus upon the quality and application of sport and exercise science and medicine. The effective translation of scientific breakthroughs into health benefits for patients and the public represents a major opportunity as a legacy of the London 2012 Olympic and Paralympic Games. The Government is therefore:

- targeting investment to support the translation of biomedical research;
- providing £30 million of funding to develop the country's first National Centre of Excellence for Sport and Exercise Medicine (NCSEM).

The Government:

- agrees that there is an opportunity for the NCSEM to provide a strategic lead and will work closely with the NCSEM on how the Centre will be sustainable;
- agrees with the Committee's emphasis upon the role of health professionals in promoting physical activity to their patients and the exciting potential for the prescription of exercise to manage chronic conditions subject to the evidence;
- is committed to the dissemination of the UK Chief Medical Officers' Guidelines for physical activity to professionals and the public.

### The quality of science underpinning sport and exercise science and medicine

**Recommendation 1. We recommend that the Department for Culture, Media and Sport (DCMS) and UK Sport take steps to ensure that the biomedical science UK Sport applies to improving the performance of elite athletes is of the highest quality and meets international peer-review standards that would be applicable in other areas of science.**

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<sup>1</sup> Throughout this response, the term "Committee" refers to the House of Lords Science and Technology Select Committee, except where the context requires otherwise.

**Recommendation 2. We recommend that UK Sport should, as a matter of principle, undertake to share its research findings more widely, specially where the research is publicly funded.**

## Response

The Government agrees with and welcomes the recommendation made in the Committee's report that the biomedical basis for improving performance of elite athletes needs to be of the highest quality and meet international peer-review standards.

UK Sport and the English Institute of Sport have a number of processes in place to quality assure the projects they support, including:

- an internal decision matrix to assess alignment with funding priorities for elite sport and to increase the probability of impact;
- review by an independent Research Advisory Group (RAG), which includes a number of internationally leading experts in the field of sport science;
- external peer-review of non-confidential project data and information and submission to a relevant sports science journal for publication;
- annual review of progress by UK Sport's RAG for all projects, which also informs process improvements and future funding decisions.

The UK sporting system seeks to collaborate with internationally leading biomedical groups to provide insights from elite performance that can help influence fundamental biomedical science. Two specific examples are listed in Annex A. These projects have been reviewed by research panels set up by the Biotechnology and Biological Sciences Research Council (BBSRC) and as such would be judged to be of international standard.

In terms of wider dissemination of research, publication of the findings of a UK Sport workshop on muscle sprains is just one example of how UK Sport shares key knowledge through the sport and exercise medicine sector. There are a number of other channels, including formal and informal events, where knowledge is shared within and outside the elite sport community:

- an annual World Class Performance Conference for the UK sporting system;
- discipline-specific elite sport seminars, e.g. physiology, strength and conditioning, nutrition, medicine, physiotherapy;
- sport and exercise specific professional development activities with international peer review;
- various leading national and international sport and exercise medicine conferences, e.g. organised by the American College of Sports Medicine (ACSM), the European College of Sport Science (ECSS) and the British Association of Sport and Exercise Sciences (BASES);
- peer-reviewed publications in sport and exercise medicine journals;
- the release of research findings into the public domain where it does not compromise commercial or performance confidentiality for British sport;
- contribution to numerous seminars and presentations across the UK scientific community in other non-specific domains, e.g. Royal Academy of Engineering, Royal Society of Chemistry, Technology Strategy Board and Physiological Society.

UK Sport and the sporting system will continue to share research outputs through the standard academic and professional development pathways with full regard to this recommendation, unless in doing so it gives competitive nations a performance advantage.

## Translation of findings to public health benefits

**Recommendation 3. Given the estimated costs of inactivity, and the potential benefits of the use of exercise as a preventative measure and treatment for chronic diseases, we recommend that the National Institute for Health Research (NIHR) and other research funders should stimulate research to translate findings of sport and exercise science and medicine to public health benefits.**

**Recommendation 11. Furthermore, the expertise of MRC, BBSRC, NIHR, UK Sport, charities, researchers and clinicians in these fields must be shared to facilitate cross-fertilisation of ideas, and to ensure that the lessons of good science applied to elite and non-elite athletes are translated into public health benefits. We recommend that the NIHR provide a lead to this work.**

## Response

The Government agrees that effective translation of scientific breakthroughs into health benefits for patients and the public is of crucial importance. The National Institute for Health Research (NIHR) and the Research Councils will play a key role.

The Government is investing £800 million over five years from April 2012 through NIHR Biomedical Research Centres and Units to support translation in biomedical research. The new NIHR Leicester-Loughborough Biomedical Research Unit will help to expand lifestyle interventions available for the prevention and treatment of chronic disease. The NIHR Biomedical Research Centre at University College London Hospital has a research theme on Critical Care and Exercise, Sports and Health. Further examples of NIHR funding streams and types of research activity with relevance to physical activity are provided at Annex B.

The Research Councils have various funding streams to help translate research outputs. The Medical Research Council's (MRC) Epidemiology Unit and the Social and Public Health Sciences Unit (SPHSU) in Glasgow include specific research programmes on translation of physical activity studies for public health benefit.

The Committee is right to focus upon the importance of co-ordination and co-operation to derive the maximum benefit for patients and the public. The principal funders of health research in the UK are represented on the Board of the Office for Strategic Co-ordination of Health Research (OSCHR). Under the auspices of OSCHR, they have developed a fully aligned approach to translational health research. The UK Clinical Research Collaboration (UKCRC) also provides a useful forum for co-ordination between Government Departments, Research Councils and charitable funders. This has led to jointly-funded public health research centres of excellence, including the Centre for Diet and Activity Research. Sharing of knowledge is also key, and making research data available to users is a core part of the Research Councils' remit.

## Training for Health Professionals

**Recommendation 4. We recommend that the National Health Service (NHS), medical schools, the General Medical Council and relevant professional bodies ensure that appropriate training, both at undergraduate level and in continuing professional development opportunities, is available for health professionals to support the prescription of exercise as a preventative measure and treatment, where science supports this. We invite the NHS to consider adding physical activity to the Quality Outcomes Framework.**

### Response

The Government agrees that healthcare professionals should be fully aware of the important role of physical activity for prevention, and in some cases treatment, of a range of medical conditions.

We are committed to the dissemination of the UK Chief Medical Officers' Guidelines for physical activity, both to the public and to doctors. For example, this summer's Games for Life campaign included summaries of the relevant Guidelines in personal activity plans provided to families. The Department of Health is working with the British Heart Foundation National Centre for Physical Activity and Health to make healthcare professionals aware of the Guidelines.

Central government does not determine the content of the training curricula for doctors. The medical schools are responsible for undergraduate training, whilst post-graduate training falls within the remit of the medical Royal Colleges. All such training needs to meet the standards set by the General Medical Council. However, we agree that those responsible should ensure that training is given to promote the benefits of physical activity, both as a preventative measure and as treatment, where this is appropriate.

Continuing professional development (CPD) needs of doctors are determined by regulatory requirements and local NHS priorities.

The Government agrees that there could be some merit in an incentive for General Practitioners (GPs) to give brief advice to their patients on physical activity and thereby raise professional awareness of the benefits of exercise. It is for the National Institute for Health and Clinical Excellence (NICE) to make recommendations to the negotiating parties to the GP contract - NHS Employers (who act on behalf of the four UK health departments) and the General Practitioners Committee of the BMA (GPC). The negotiating parties consider all the NICE recommendations in the light of the overall settlement and the capacity of GP practices.

Physical activity indicators are included on NICE's recommendation list, to be considered as part of the negotiations for the 2013/14 Quality and Outcomes Framework (QOF) for adult patients with hypertension. We have asked NHS Employers to discuss all of NICE's recommendations with the GPC.

### Guidance

**Recommendation 5. We recommend that the National Institute for Health and Clinical Excellence (NICE) assess the quality of research to support the prescription of specific exercises in the management of chronic diseases and, where the evidence supports it, update their guidelines to reflect these findings.**

## Response

NICE's clinical guidelines are based on a thorough assessment of the available evidence and are developed through wide consultation. A number of NICE's existing clinical guidelines for chronic conditions (for example low back pain and osteoarthritis) recommend referral to specific exercise programmes. Where there is good quality evidence, the Government agrees that it is appropriate for NICE to consider the use of exercise for specific chronic conditions in the development of its guidance. It is for NICE, as an independent body, to determine whether and when to update its guidance. NICE periodically reviews its guidance to reflect significant new evidence or changes in clinical practice, and consults as part of that process.

## Quality Assurance of Exercise Professionals

**Recommendation 6. We recommend that the NHS and NICE evaluate the most effective mechanism for assuring the quality of service delivered by exercise professionals in exercise referral schemes.**

## Response

Exercise referral typically involves the referral of patients by their GP to community-based exercise professionals to promote physical activity or address a long-term condition. The Department of Health published a National Quality Assurance Framework (NQAF) for exercise referral schemes in 2001, which recommends that participating exercise professionals hold appropriate qualifications and belong to the Register of Exercise Professionals (REPS). The Fitness Industry Association is working with the Royal Colleges and other interested organisations to prepare new, revised guidelines based upon the NQAF.

Registration through REPS signifies that gym instructors meet minimum National Occupational Standards for the knowledge, competencies and skills needed to perform their specific role. For those delivering exercise referral, the required level of registration is determined by the clinical needs of the referral population. We would encourage all commissioners of exercise referral schemes to make the use of appropriately trained and qualified exercise professionals (and eventually compliance with the updated guidelines for exercise referral) a contractual requirement.

NICE considered the cost effectiveness of exercise referral in 2006. It will be updating the guidance relating to exercise referral schemes to take account of new evidence. The new guidance will provide robust, evidence-based advice on the use of exercise referral schemes to increase physical activity. However, NICE is not a regulator and is not responsible for quality assurance of exercise referral schemes.

## Government Policy

**Recommendation 7. We find it remarkable that DCMS is not concerned with the health benefits of sport (as a form of physical activity). We recommend that the Government take a strong, joined-up approach to promoting the health benefits of exercise and physical activity, and that DCMS play an active part in this. We also recommend that the Government look to international models for improving the quality and application of sport science.**



## Response

The Government rejects the Committee's assertion that the Department for Culture, Media and Sport (DCMS) is not concerned with the health benefits of sport. DCMS works closely with the Department of Health (DH) on the development and delivery of policies on sport and physical activity. The Prime Minister has directed that legacy issues should 'lie where they fall', so although DCMS will continue to work with and support DH, DH remains the lead Department for health legacy.

DCMS, DH, the Department for Education and Sport England have launched the School Games, which are providing more opportunities for pupils of all abilities to take part in competitive sport in schools. Over half of all primary and secondary schools have signed up to this £150m programme delivering significant health gains for our children. Change4Life School Sports Clubs, funded by DH and delivered by the Youth Sport Trust, also provide an opportunity to engage less active children through Olympic and Paralympic sports.

In addition, Sport England's new Youth Sport strategy, inspired by the Olympic and Paralympic games, is providing funding to community groups as well as National Governing Bodies of sport to drive up the numbers of 14 -25 year olds doing sport at least once a week. The aim of the strategy is to create a sporting habit for life. Although DCMS does not describe this policy in terms of the health benefits, the Government regards these as an inevitable outcome of a strong sports policy. Furthermore, DCMS and DH work very closely with Sport England on the Active People Survey to measure the impact of these policies and inform future policy decisions.

The Cabinet Sub-Committee on Public Health oversees all of this, and works hard to join up the actions of all departments with an influence upon physical activity.

With regard to collaboration beyond national boundaries, the Government agrees that we should be willing to learn from international examples to continually drive up standards in sport science. In the past three to four years, UK Sport has been involved in a number of formal and informal collaborations with Australia, USA, New Zealand, Canada, Japan, China, Norway, Sweden, Germany, Switzerland, France, and Holland on specific sport science initiatives.

UK Sport will continue to maintain and develop these partnerships as part of this recommendation to ensure the quality and application of sport science remain of the highest quality.

## National Centre for Sport and Exercise Medicine

**Recommendation 8. Given the level of seed investment made, and the importance of this research, the proposed strategy is unsatisfactory. We recommend that the Department of Health clarifies the intended role of the National Centre for Sport and Exercise Medicine (NCSEM) and outlines how it will ensure that the work of the Centre will be sustainable.**

**Recommendation 10. Given the importance of co-ordination and co-operation to further this field, we recommend that the NCSEM lead the development of a National Sports and Exercise Science and Medicine strategy. Such a strategy would seek to engage researchers and clinicians (both from within and outside the Centre) to identify key research needs, improve the quality of research, promote collaboration and co-ordinate research in SES and SEM over the next**

**five years. The Centre should consider the work of international counterparts, to learn from their experiences.**

## **Response**

The key role of the National Centre for Sport and Exercise Medicine is to provide a strong evidence base for clinical best practice in relation to sport, exercise and health. This will benefit elite athletes and anyone who participates in sport and exercise. The capital grant funding (of £30 million) made available by the Department of Health will enable the co-location of research, education and clinical services. This will help speed up the translation of research into services to improve patient outcomes. As a condition of the capital grant funding, the NCSEM partners are required to demonstrate that the benefits of the investment are sustained over at least the next five years.

We understand that the NCSEM partners would welcome the opportunity to lead the development of a National Sports and Exercise Science and Medicine strategy and see this as a key priority. Part of this strategy will involve a review of the work of international counterparts.

The Government has asked Mike Farrar, Chief Executive of the NHS Confederation, to continue his work to support the development of Sport and Exercise Medicine and of the work of the NCSEM.

## **Research Council Funding**

**Recommendation 9. The NCSEM, sports scientists and sport medical professionals must demonstrate that they can undertake research of the same quality as fundamental disciplines and that they have the institutional support to carry it out. We recommend that the Research Councils, particularly Biotechnology and Biological Sciences Research Council (BBSRC) and Medical Research Council (MRC), demonstrate that they are co-operating to ensure that good quality research in SES and SEM does not fall between the two councils**

## **Response**

The NCSEM's sports scientists and sports medical professionals are leaders in their fields and have the support of their world-leading institutions. Their work already attracts grants from the Research Councils. Research proposals are subject to rigorous peer-review to ensure research funded by the Councils is of high quality. The Research Councils also review the quality of research that has been delivered through such funding.

Whilst the MRC and the BBSRC have their respective key research priorities, they work closely with one another where research applications are at the interface of their remits. The Councils have a co-funding concordat, which is applied where research straddles the interface. Joint funding calls help to support multi-disciplinary research by multiple funders. Paragraph 49 of the Committee's report highlights two joint funding calls for multi-disciplinary research by the BBSRC and UK Sport. The MRC has also led a cross-Council programme on Lifelong Health and Well-being, and the National Prevention Research Initiative on behalf of 16 funding partners.

## Annex A – Examples of biomedical research in elite sport

|                       |  |
|-----------------------|--|
| Nottingham University | Mechanism of eccentric training augmentation of muscle adaptation in humans and the potential negative impact of non-steroidal anti-inflammatory drugs |
| Leeds University      | Physiological systems integration in the optimisation of exercise tolerance  |

There are also strong research partnerships with other internationally leading biomedical groups at Oxford University, Bath University, Loughborough University, University College London and many others – all of which carry out direct research in biomedical sciences, with an emphasis on sports and exercise medicine, and have high Research Excellence Framework (REF) ratings judged by the quality of research output.

## Annex B – Examples of NIHR funding streams and types of research activity

1. The new **NIHR Leicester-Loughborough Biomedical Research Unit** (£4.5 million for five years from April 2012) will focus on providing the experimental foundation for extending the nature and types of therapeutic lifestyle interventions available for the prevention and treatment of chronic disease. Two research areas will be taken forward:
  - Extending the boundaries of physical activity research into two highly novel and clinically relevant areas of investigation.
  - Investigating key aspects related to the interplay between physical activity, appetite regulation, nutritional factors and targeted nutritional therapies to improve metabolic regulation.
2. The **NIHR University College London Biomedical Research Centre** includes a research theme on Critical Care and Exercise, Sports and Health (RACE). Within this, the research on exercise will be aimed at:
  - Understanding musculoskeletal ageing.
  - Identifying injury related to exercise or sedentary lifestyle.
  - Improving outcome after injury related to exercise or sedentary lifestyle.

The researchers aim to understand the mechanisms through which exercise promotes health, and the best means through which to deliver effective exercise strategies. This will allow optimal physical or pharmacological preventative and treatment strategies to be identified.

3. **UKCRC Public Health Research Centre of Excellence<sup>2</sup> CEDAR** - Centre of Diet and Activity Research is one of five UKCRC Public Health Research Centres of Excellence funded to support research capacity in health improvement. One way that this is achieved is through provision of support for additional posts at all stages of career development. The Centre focuses on studying the factors that influence dietary and activity related behaviours, developing and evaluating public health interventions, and helping shape public health practice and policy.

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<sup>2</sup> Funders are: NIHR, Wellcome Trust, British Heart Foundation, Cancer Research UK, MRC, Economic and Social Research Council, Public Health Agency Northern Ireland, Welsh Assembly Government. NIHR will contribute £4.7m over five years.

**4. NIHR School for Public Health Research** The School aims to close the gap between academic public health and practice. Launched in April 2012, the early programme is likely to include projects on:

- What are the health benefits of taking part in environment/conservation activities for different groups of people?
- Increasing physical activity through workplace design and management – a feasibility study.
- Systematic reviews of determinants of obesity related dietary and physical activity behaviours in preschool children.



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