Professor Robert Copeland  C.Psychol

Director NCSEM Sheffield
Professor of Physical Activity & Health – Sheffield Hallam University
Leaving a Legacy
Inactivity 'kills more than obesity'

By James Gallagher
Health editor, BBC News website

A lack of exercise could be killing twice as many people as obesity in Europe, a 12-year study of more than 300,000 people suggests.
Life expectancy at birth in Sheffield
- Men: 78.8 years
- Women: 82.4 years


Healthy life expectancy at birth (male) in years

Life expectancy vs. Healthy Life Expectancy

Life expectancy at birth in Sheffield:
- Men: 78.8 years
- Women: 82.4 years


Healthy life expectancy at birth (male) (years):

Richmond-upon-Thames
Wokingham

Healthy Life Expectancy and Physical Activity

Adults who are physically active (%):

R² = 0.32

“Our partners in East Midlands, London, and Sheffield will undertake world-class research and provide services that will deliver long-term systematic change to benefit the health of the nation”.

Lord Seb Coe
9 January 2012
Vision: A healthier nation through Sport, Exercise and Physical Activity.
NCSEM England: Priorities

• **Translation:** Translating discoveries into improved pathways of patient care.

• **Evaluation:** Providing academic rigor to evidence impact.

• **Education:** Supporting the education of healthcare professionals to improve the use of exercise prescription.

• **Influence:** Using influence to effect changes in government policy around physical activity.

• **Research:** Leading research in sport, exercise and physical activity.
NCSEM Research Themes

Physical Activity in Disease Prevention
Promote physical activity and healthy lifestyles as a preventative therapy for long term conditions.

Chronic Disease Treatment
Develop the prescription of physical activity in the treatment of chronic disease.

Musculoskeletal Health
Develop models for the use of physical activity in diagnosis and management of musculoskeletal disorders, and public cost savings through reduction in work absenteeism.

Mental Health and Wellbeing
Improve staff wellbeing, reduce absenteeism and enhance productivity, through physical activity.

Promote physical activity in the treatment of mental illness and deliver research, education and training in the identification of eating disorders in sport.

Performance Health
Research elite athlete performance to further understand how to optimise health for this population and make it applicable to benefit other groups, such as the ageing population.
IOC Research Centre for Prevention of Injury and Protection of Athlete Health
NCSEM-Sheffield
Sport and exercise medicine and the Olympic health legacy

Garry A Tew¹, Robert J Copeland¹ and Simon H Till²∗

Abstract

London 2012 is the first Olympic and Paralympic Games to explicitly try and develop socioeconomic legacies for which success indicators are specified - the highest profile of which was to deliver a health legacy by getting two million more people more active by 2012. This editorial highlights how specialists in Sport and Exercise Medicine can contribute towards increasing physical activity participation in the UK, as well as how the National Centre for Sport and Exercise Medicine might be a useful vehicle for delivering an Olympic health legacy. Key challenges are also discussed such as acquisition of funding to support new physical activity initiatives, appropriate allocation of resources, and how to assess the impact of legacy initiatives.

Keywords: physical activity, chronic disease, primary prevention, rehabilitation, Olympic legacy
Who is involved in the NCSEM?

- Sheffield Health and Social Care
- Sheffield Chamber of Commerce and Industry
- Sheffield Clinical Commissioning Group
- Voluntary Action Sheffield
- Sheffield Hallam University
- Sheffield Children’s NHS Foundation Trust
- Sheffield City Council
- Sheffield Teaching Hospitals
- Sheffield International Venues
- English Institute of Sport
- The University of Sheffield
NCSEM-Sheffield Vision

To create a culture of physical activity that results in Sheffield becoming the most active city in the UK by 2020
NCSEM-Sheffield Mission

Make it easier for everyone in Sheffield to be active as part of everyday life.
NCSEM – First 5 year priorities

1. Establish the governance, operations and accountability for the NCSEM in Sheffield
2. Deliver a capital programme to co-locate clinical services with physical activity.
3. Develop an integrated city-wide strategy to promote physical activity.
4. Develop a research strategy to attract high quality research grants into city
5. Protocol to baseline physical activity using objective measures
How can we create a population level increase in Physical Activity?

Sheffield
Our vision
Create a culture of physical activity.

Our mission
Ensure that everyone (individuals, families and communities) living in Sheffield has the opportunity, environment and human capital to be sufficiently physically active as part of their everyday life, to benefit their health and wealth.

"Changing the way we do things round here"

Our six outcomes

**Empowered Communities**
Engaged and empowered communities who take responsibility and ownership of ‘changing the way we do things round here’ in terms of physical activity.

**Active Environments**
Sheffield is a city designed to make it easier for people to be physically active as they go about their daily lives.

**Active People and Families**
Citizens and communities are better informed, more connected, feel a greater sense of self-efficacy and move more as a normal part of daily life.

**Activity as Medicine**
Sheffield’s healthcare system commissions, values and promotes physical activity as a viable treatment option.

**Active Schools and Active Pupils**
Sheffield children are provided with a positive experience of physical activity through the physical, social and educational environment of the school.

**Active Workplaces and an Active Workforce**
Places that create environments and policies, and provide support, to enable employees (and those seeking work) to move more as part of their working day to improve health and create wealth.
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UK's Most Active City 2020

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Best Investments for Physical Activity

1. Communication and public education
   - Consistent public education, including use of mass and social media

2. Transport and the environment
   - Transport policies and systems that prioritise walking, cycling and public transport

3. Urban design and infrastructure
   - Provide safe and equitable access for recreation and physical activity across the life course

4. Healthcare and health education
   - Ensure assessment and advice about physical activity is a routine part of healthcare services

5. Education
   - Make regular physical activity in schools and places of learning normal

6. Community-wide programs
   - Work with communities to provide appropriate local solutions, aiming to mobilise large numbers of people

7. Sport and recreation
   - Sport systems and programs that promote "sport for all" and encourage participation across the life span

We need action to achieve the goal of 10% increase in participation by 2025

Work together to make it happen


NON COMMUNICABLE DISEASE PREVENTION:
Investments that Work for Physical Activity

A complementary document to The Toronto Charter for Physical Activity: A Global Call to Action

Physical inactivity is the fourth leading cause of deaths due to non-communicable diseases (NCDs) worldwide, heart disease, stroke, diabetes, and cancer, and each year contributes to over three million preventable deaths. Physical inactivity is related directly and indirectly to the other leading risk factors for NCDs such as high blood pressure, high cholesterol, and high glucose levels; and, to the recent striking increases in childhood and adult obesity, not only in developed countries but also in many developing countries. Substantial scientific evidence supports the importance of physical inactivity as a risk factor for NCD, independent of poor diet, smoking and alcohol misuse.

Physical activity has comprehensive health benefits across the lifespan: it promotes healthy growth and development in children and young people, helps to prevent unhealthy mid-life weight gain, and is important for healthy ageing, improving and maintaining quality of life and independence in older adults. The most recent global estimates indicate that 66% of the world population are exposed to health risks due to inactivity. Increasing participation in physical activity is a major health priority in most high and middle-income countries and is a rapidly emerging priority in lower income countries experiencing rapid social and economic transitions.

The Toronto Charter for Physical Activity (May 2010) outlines the direct health benefits and co-benefits of investing in policies and programs to increase levels of physical activity. Already translated into 11 languages, the Toronto Charter makes a strong case for increased action and greater investment in public health as part of a comprehensive approach to NCD prevention. The Charter was developed with extensive worldwide stakeholder consultation and calls for action in four key areas consistent with the WHO Global Strategy for Diet and Physical Activity: 1) National policy; 2) Policies and regulations; 3) Programs and environments; 4) Partnerships.

There is strong evidence to guide the implementation of effective approaches to increase physical activity. Reversing downward trends in physical activity will require countries to commit to a combination of strategies aimed at the individual, social-cultural, environmental and policy determinants of inactivity.

Physical activity is influenced by policies and practices in education, transportation, parks and recreation, media, and business, so multiple sectors of society need to be involved in the solutions. There is the need to inform, motivate and support individuals and communities to be active in ways that are accessible and enjoyable. There is no single solution to increasing physical activity; a comprehensive approach will require multiple concurrent strategies to be implemented. To support countries ready to respond, there are seven “best investments” for physical activity, which are supported by good evidence of effectiveness and that will have worldwide applicability.

Whole-of-community approaches where people live, work and recreate have the opportunity to mobilize large numbers of people.
Power by the Move More App

Activity Time

300%

90 active minutes (target: 30 minutes)

Steps

1:30
7712

1148 steps
1 active minute

13 active minutes

08:18
08:33
08:47
08:48

Steps

Sheffield Wednesday FC

60284 active minutes

294 people joined

Sheffield United FC

37031 active minutes

184 people joined
### Move More Month Participation

- **6.5 million** minutes against a **10 million** target

### Steel City Derby

- **689 Fans**
- **1.2 million Minutes**

### Move More Workplace Challenge

- **23 Workplaces**
- **374 Teams**
- **2,964 Participants**
- **4.4 million Minutes**

### Move More Schools Challenge

- **6 Schools**
- **1,941 Pupils**
- **106,755 Journeys**
- **2,669 Miles**
Move More Month Public Reach

300 City-wide Events
54 Participating Organisers

Media Engagement
BBC Breakfast
6.8m (Daily Reach)
Radio Sheffield
279k (Weekly Reach)
Sheffield Star Newspaper
133k (Readership)
Sheffield Telegraph
62k (Readership)

Facebook
50k Reach
1.9k Post Engagements
1.7k Video Views
100 Likes

Twitter
231 Tweets
1,477 Followers
196k Impressions
10.4k Profile Visits
PHE One You Campaign

HOW ARE YOU?

Our lifestyles can be more unhealthy than we think. Start the fight back to a healthier you. Take the One You quiz and see how you score.

START QUIZ
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Rationale for NCSEM Capital infrastructure

- Vision for NHS services to include greater supported self-management, innovative and integrated service provision, prevention and moving more in our pathways
- Deliver community-located services for multiple specialities
- Establish joint clinics and co-located working to provide one-stop clinical care closer to patients’ homes, shorten pathways and improve experience
NCSEM capital investment establish an innovative model to;

• co-locate patients, clinicians, researchers, sport and exercise medicine specialists and public health professionals across the City

• create community facilities to extend the reach of Sport and Exercise Medicine that include; research, recreation, rehabilitation and education.

• 32 clinical rooms, 35,000 NHS appointments per year
NCSEM Hub - Graves
NCSEM Hub - Graves
We are running 6 different group exercise sessions and 3 education and training sessions per week including:

- Mental health
- Diabetes
- Pulmonary rehab
- Pain Management
- Physio
- National Ankylosing Spondylitis Society
- Memory Service
- Pulse HealthCare diabetes sessions
- Pain Management
NCSEM Hub - Graves

• We run over 140 clinics per week from a range of NHS providers including:
  – Physio
  – Diabetes
  – Rheumatology
  – Podiatry
  – Staff Physio
  – Neurological Enablement
  – Chronic Pain
  – IAPT
NCSEM Spoke - Thorncliffe
NCSEM Spoke - Concord
Concord - October 14
NCSEM Hub - Concord

• We have 5 education sessions running including:
  • Diabetes, Why Weight, Mental Health, Physio

• We run 68 clinics per week including:
  – Physio
  – Diabetes
  – Continence
  – Podiatry
  – Pain
  – Weight management
  – IAPT

• Total 35-40,000 appointments per year
I am feeling really positive about all of this, starting to line up patients most weeks now to assess them on the treadmills walking and running, its a definite asset.
Holding the physio back rehab classes at NCSEM really helps to change the mindset of the patients. It gives them a different perspective on what medicine is.

Senior Physiotherapist
Doing plenty of gait analysis in situ using the main gym. Had an athlete recently not responding to anyone’s treatment. Altered his loading using the centre and he’s now back competing. Really positive story for Move More.

Advanced Specialist Podiatrist
Evaluation

- PhD starting September to explore the health, social, organisational and economic impact of the co-location model
- A £1bn regeneration scheme to save the NHS by transforming the UK's leisure centres into a preventative frontline.

“A radical overhaul of our leisure infrastructure would move us towards a health system that places emphasis on wellness over illness”
Pathways for patients

Vision is to embed physical activity as medicine within the heart of the NHS offer bringing significant benefit to patients and reducing burden on NHS services.
Prevention and management of non-communicable disease: the IOC consensus statement, Lausanne 2013

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Steven N Blair,7 Mats Börjesson,8,9 Richard Budgett,5 Wayne Derman,10
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ABSTRACT
Morbidity and mortality from preventable, non-communicable chronic disease (NCD) threatens the health of our populations and our economies. The accumulation of vast amounts of scientific knowledge has done little to change this. New and innovative thinking is essential to foster new creative approaches that leverage and integrate evidence through the support of big data, technology and design thinking. The purpose of this paper is to summarise the results of a consensus meeting on NCD prevention sponsored by the to achieving the UN’s Millennium Development Goals4 and are a global threat to our economies in addition to our health. A report by the World Economic Forum and Harvard University estimates that chronic diseases, currently costing 29% of the global gross domestic product (GDP), will cost the global economy US$30 trillion over the next two decades, cumulatively 48% of the global GDP in 2010.5 But, chronic diseases are largely preventable. Their main causes are related to lifestyle, that is, physical inactivity (recently labelled by The
Exploring a user-centred design approach to embedding physical activity within usual NHS care
Project stages

- Interviews
- Co-design workshops
  - Further staff engagement and involvement
  - Prototyping – tangible components
  - Experience prototyping
  - Other stakeholders
- Implementation planning
Some ideas in development

- Priming strategies - making PA an easier and more natural part of the appointment
- Standardising PA as a normal and consistent part of consultations
- Simplifying referral and signposting processes
- Facilitating maintenance and impact
Liability and risk

"I want someone to tell me what is safe to do"

"I haven't had the training to assess other medical conditions"

"We haven't got time to go through a long list of contraindications"

"It's got to start with the GP... they have the person's medical history"
"People who are 'ready' will benefit the most - we should concentrate on them"

"The people who are 'not ready' are exactly the people we want to try and reach"

"It's irrelevant whether a person is ready, ultimately this is something that everyone should receive"

"Healthcare professionals don't have time to change people's minds about PA within routine appointments"
"We need to ensure people do the relevant dose of PA to have a clinical physical benefit"

"We have to give people choice otherwise they won't do it"

"Physical activity can mean all sorts of things... we want to promote it flexibly"

"We need to be able to do it in less than 4 clicks of a mouse"
"We need to support people for as long as they need it"

"All we can do is start people on the journey...we need someone to hand over responsibility to"

"If we give people too much support, they won't take personal responsibility and develop the skills they need to maintain PA"

Long term change and impact