Department of Sports Science and Clinical Biomechanics

Research Unit for Exercise Epidemiology

Research Strategy 2015-2020

Background

Lack of engagement in physical activity is one of the principal threats to the health of populations of all age groups worldwide. While its relationship to common disorders such as obesity, type-2 diabetes, cardiovascular diseases and musculoskeletal diseases are well established, the magnitude of such associations and detailed dose-response relationships of different domains of physical activity remain less explored. Furthermore, the current understanding of factors that determine people's engagement in physical activity and associated physical fitness and its importance in the prevention of poor mental health and cognitive function are still limited, particularly in young people.

Continuing to disentangle the ways in which physical activity affects population health and tackling population-wide inactivity and poor physical fitness via targeted health promotion, disease prevention and early detection is of major public health importance. If this fails, poor population health and its associated cost burden may compromise the future welfare of individuals and the healthcare budgets of societies.

Role

The role of the Research Unit for Exercise Epidemiology (ExE) is twofold:

(i) to conduct large-scale epidemiological studies that aim to quantify and increase understanding of the importance of engaging in regular physical activity and limiting sedentary behaviors in the prevention of disease and the promotion of population health, and

(ii) to design effective preventive interventions and implementable solutions to improve aspects of the physical and mental health of child, adolescent and adult populations.

Aims

In fulfilling its role, the Research Unit has established a number of aims to guide its activities:

- To investigate the effect and population impact of physical activity and sedentary behaviors on health-related outcomes
- To investigate determinants and temporal time trends in physical activity, sedentary behaviors and physical fitness in populations
- To develop and evaluate interventions that promote physical activity and are beneficial for health-related outcomes
- To develop objective and subjective methods for the assessment of physical activity and sedentary behaviors for use in large-scale population-based studies
- To synthesize and summarize existing evidence of the role of physical activity and sedentary behaviors in health promotion and disease prevention that can be used to inform public health policy and practice

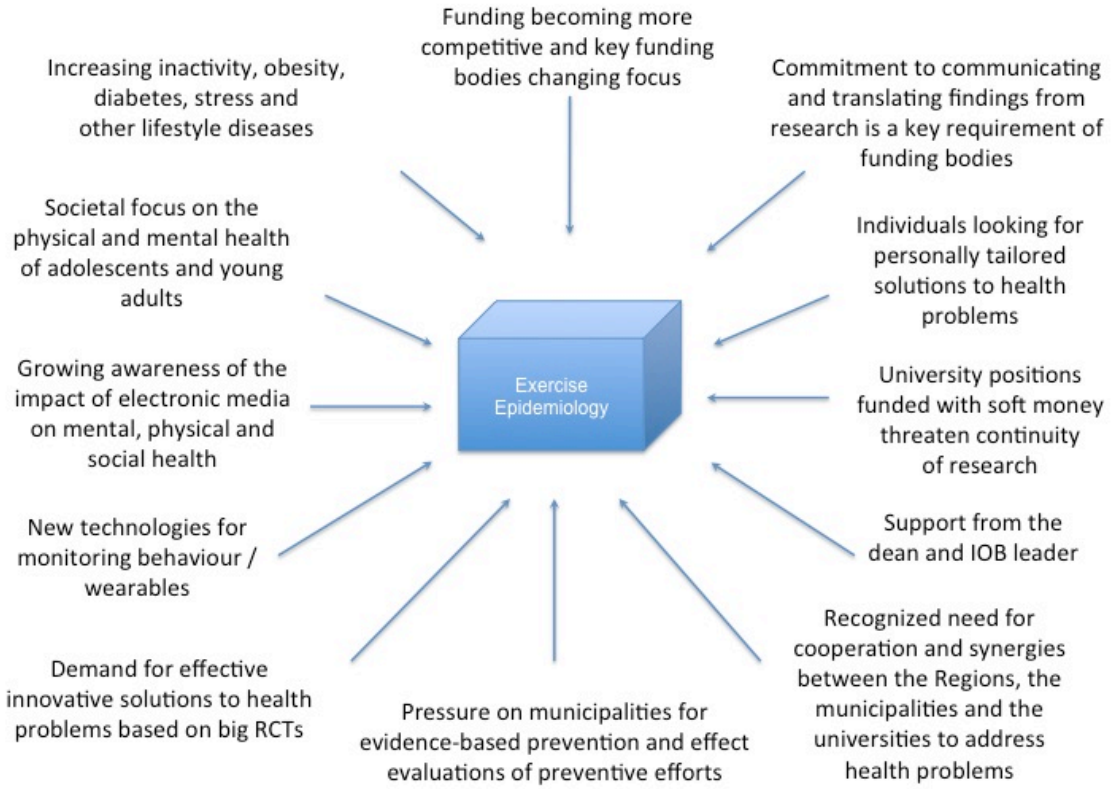
Current research focus

Over the next 3 to 5 years, the Research Unit's key research lines will be:

- Active commuting in health promotion and disease prevention
- Physical activity and fitness and their relationship to cognitive function and academic achievement
- Screen time use and other sedentary behaviors and their relationship to mental and cardiovascular health
- Dose-response relationship of physical activity and risk of cardiovascular diseases and premature mortality
- Methods for assessing physical activity
- Determinants, prevalence, and incidence of overuse and acute musculoskeletal injuries in children and adolescents
- Effectiveness of school-based physical activity promotion
- Implementation research within intervention programs to promote physical activity
- Temporal trends in physical activity and fitness

Key external influences

Following an analysis of its operating environment, the Research Unit identified a number of key external influences on its activities now and into the future:



Vision

By 2020, the Research Unit will be recognized for both its research excellence in the international scientific community and for its valuable contribution to evidence-based policy and practice in the public health domain.