



Knowledge Exchange Seminar Series (KESS)

...is a forum that encourages debate on a wide range of research findings, with the overall aim of promoting evidence-based policy and law-making within Northern Ireland



Sit Less - Move More

Reducing sedentary behaviour to improve health

Professor Marie H Murphy

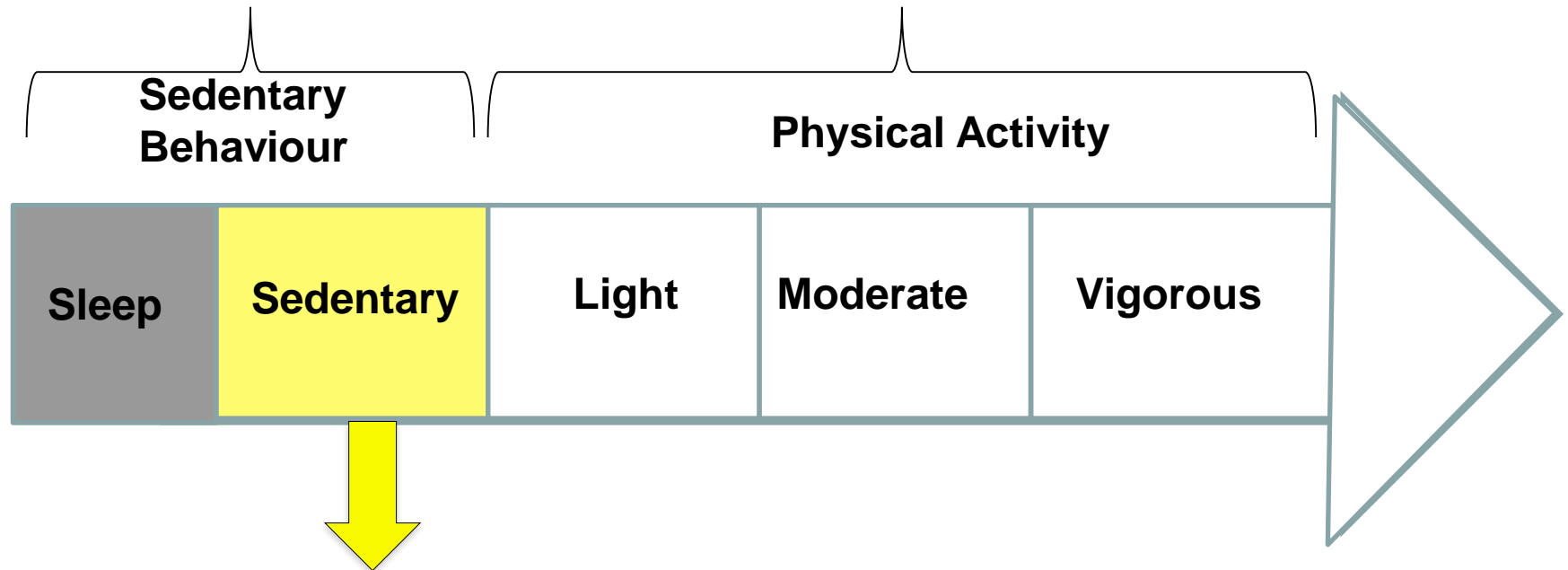
Centre for Physical Activity and Health Research

Sport & Exercise Sciences Research Institute

Ulster University

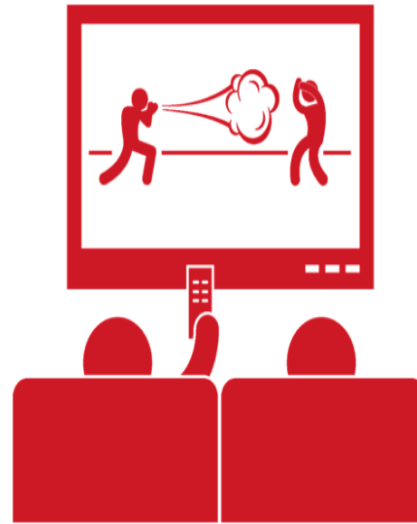
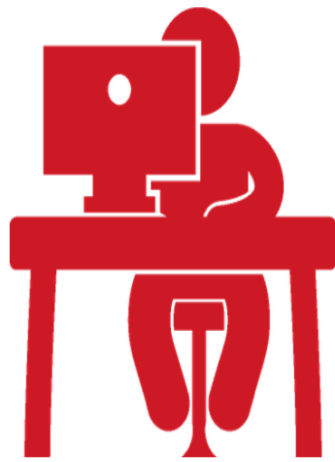
- Sedentary Behaviour vs Physical Inactivity
- Health effects of Sedentary Behaviour
- How sedentary are the population?
- Reducing / interrupting sedentary behaviour

Physical Activity and Sedentary Behaviour

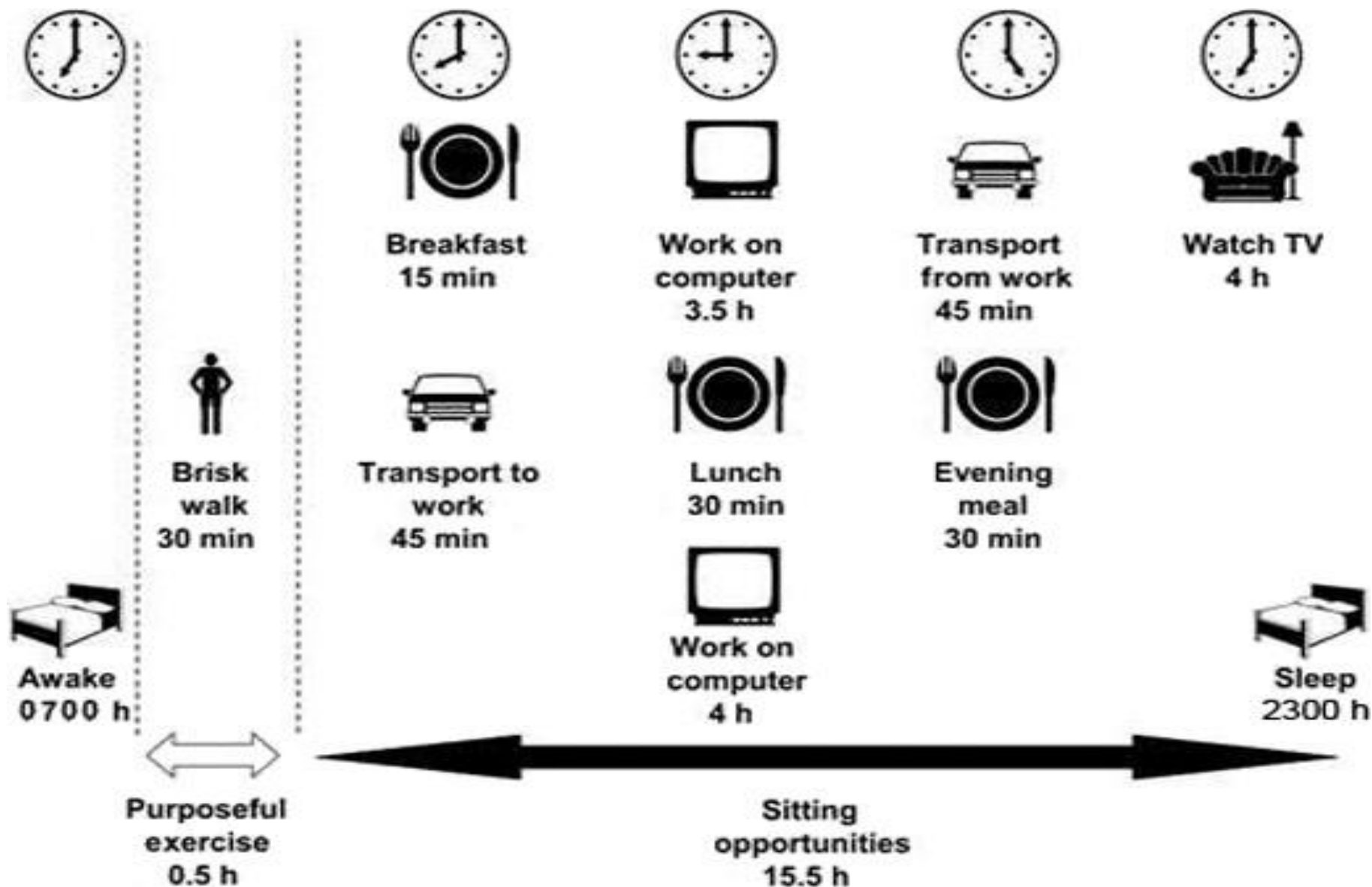


“any waking activity characterized by an energy expenditure ≤ 1.5 metabolic equivalents *and* a sitting or reclining posture.”



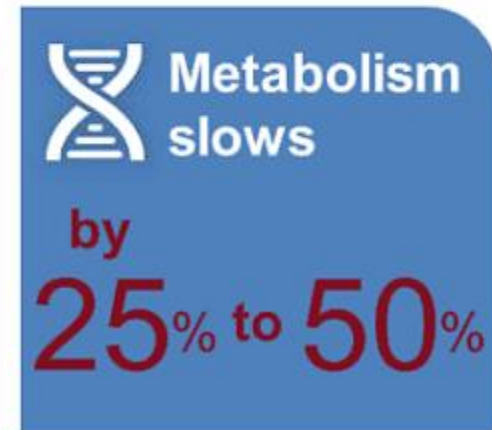
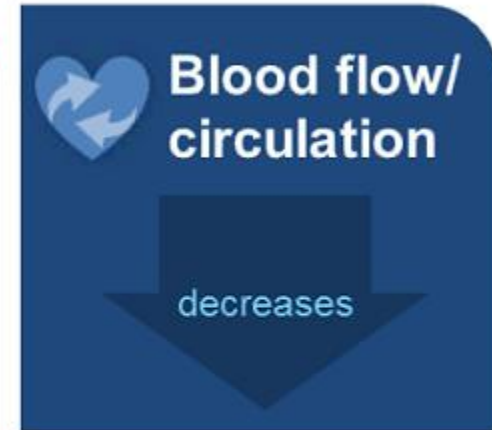


Opportunities for sitting engineered into modern life
Work – Rest – Play – Transport

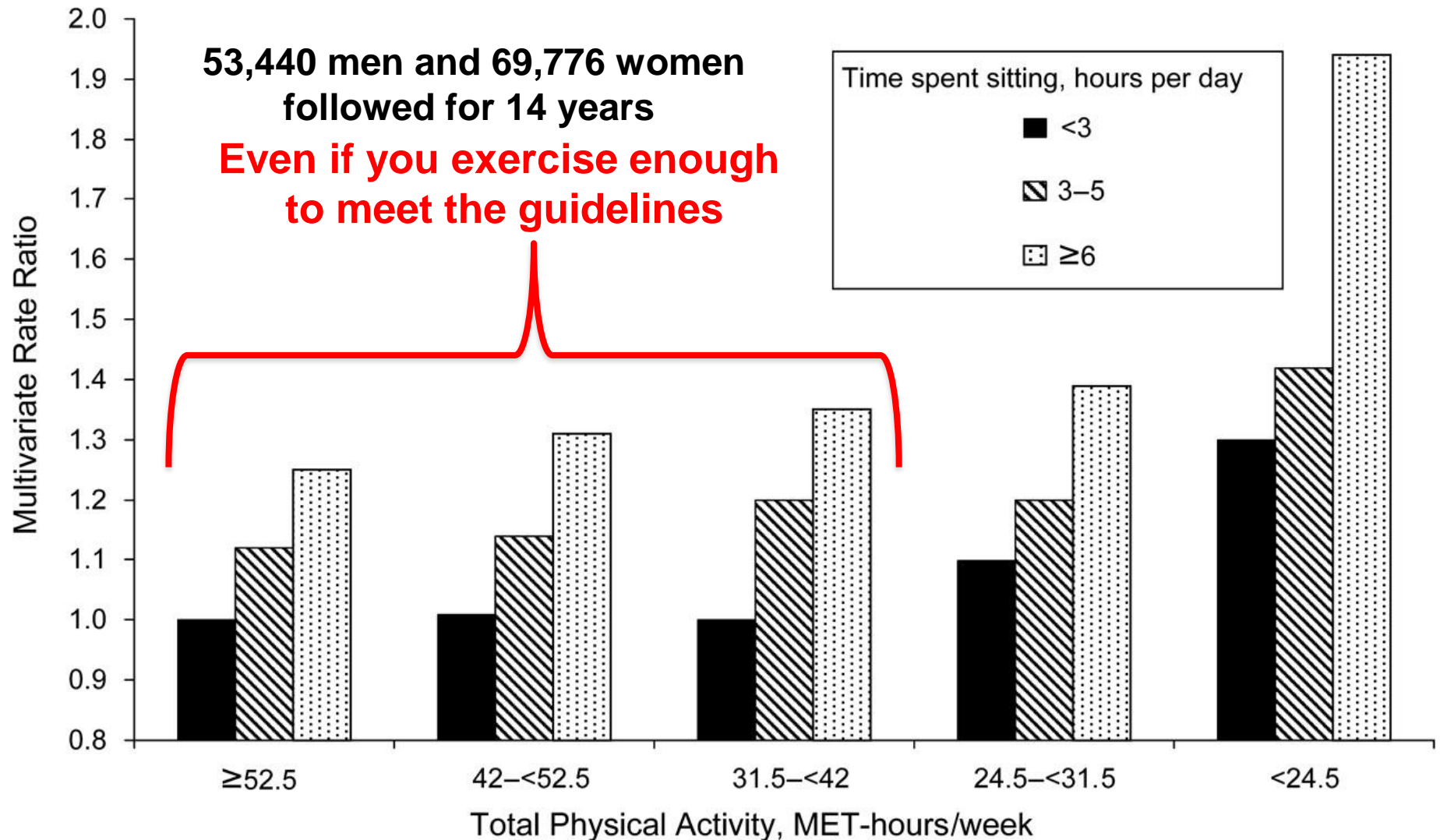


Dunstan et al. 2010 Too Much Sitting and Metabolic Risk-Has Modern Technology Caught Up with Us? European Endocrinology, Vol. 6, p. 20,

Dangers of prolonged sitting



Sitting Time and All-Cause Mortality



Patel A V et al. (2010) Leisure time spent sitting in relation to total mortality in a prospective cohort of US adults. *Am. J. Epidemiol.* 2010;172:419-429

The UK Physical Activity Guidelines 2011



Foreword by the Chief Medical Officers



Professor Dame Sally Davies,
CMO for England



Harry Burns, C



Dr Tony Jewell, CMD for Wales



Dr Michael
CMO for

Whatever our age, there is good scientific evidence that being physically active can help us lead healthier and even happier lives. We also know that inactivity is a silent killer. Therefore, it is important that the public health community provides people with the information on which to base healthy lifestyle choices. *Start Active, Stay Active* is aimed at professionals and policy makers and is the first link in a chain of communication to inform behaviour change.

This report establishes a UK-wide consensus on the amount and type of physical activity we should all aim to do at each stage of our lives. In reaching this consensus, we have drawn upon recent international, large-scale reviews in the United States and Canada and have benefited from the contribution of international experts engaged in the World Health Organization Global

Recommendations on Physical Activity
We are grateful to all who have contributed to this collaborative effort.

Start Active, Stay Active is a new set of guidelines for children, young people and adults, and includes new guidelines for older people for the first time. The guidelines create health benefits of an additional 7.5 years of life expectancy for a strong link to previous guidelines for older age groups, they highlight the importance of sedentary behaviour, and the need for more physical activity of any overall volume.

Our aim is that as you become aware of these guidelines, the recommended approach in the report does not seem

Acknowledgements

We would like to give special thanks for the support we have received from the British Heart Foundation (BHF) National Centre for Physical Activity and Health and the leadership provided by Professor Fiona Bull (School of Sport, Exercise and Health Sciences, Loughborough University).

We would like to thank the contributing authors and members of our Physiological Assessment and Group (PAGEG) and the members of the expert working group on the development of the PAGEG has been invaluable.

PAGEG members:

Dr Les

PAGEG members
Dr Len Altmann

Dr Len Almond

Professor Stuart Biddle

Professor Fiona Bull

Dr Nick Cave

Dr Richard Ferguson

Dr Charlie Foster

Professor Ken Fox

Professor Marie M.

Professor John

Professor John Kelly

Professor Gareth Stratton

links also to Andy At
partment of

Thanks also to Andy Atkin (BHF National Centre for Physical Activity and Health) and the Department of Health, who both undertook editing of this report, as well as the Public Health, Liverpool John Moores University and the School of Sport and Exercise Medicine, University of Ulster for their contributions.

Finally, a special thanks to the project management team at the University of Liverpool for their support and assistance throughout the project.

Finally, a special thanks to the Department of Health and, in particular, Kay Thomson and Deborah Moir who project managed this work on behalf of the four home countries.

Physical activity guidelines for adults



Adults should aim to be active daily. Over a week, activity should add up to at least 150 minutes (2½ hours) of moderate intensity activity **in bouts of 10 minutes or more** – one way to approach this is to do 30 minutes on at least 5 days a week.

Alternatively, comparable benefits can be achieved through 75 minutes of vigorous intensity activity spread across the week or a combination of moderate and vigorous intensity activity.

Adults should also undertake physical activity to improve muscle strength on at least two days a week.

All adults should minimise the amount of time spent being sedentary (sitting) for extended periods.



Department
of Health



department for
children, schools and families

2018

4 CMOs Reviewing Physical Activity Guidelines Likely to include more specific recommendations on sedentary behaviour

Authorship of this paper is

The Sedentary Behaviour and Obesity Expert Working Group:

Professor Stuart Biddle, Loughborough University (Chair)

Nick Cavill, Cavill Associates & University of Oxford

Dr Ulf Ekelund, MRC Epidemiology Unit, Cambridge

Dr Trish Goady, Loughborough University

Professor Mark Griffiths, Nottingham Trent University

Dr Russ Jago, University of Bristol

Professor Jean-Michel Oppert, Pitié-Salpêtrière Hospital, Paris, France

Dr Monique Raats, University of Surrey

Dr Jo Salmon, Deakin University, Australia

Professor Gareth Stratton, Liverpool John Moores University

Dr Germán Vicente-Rodriguez, University of Zaragoza, Spain

Dr Bryony Bullard, Cross Government Obesity Unit (Knowledge & Evidence)

Liz Prosser, Cross Government Obesity Unit (Delivery Manager - Physical Activity)

Debra Richardson, Cross Government Obesity Unit (Programme Manager) (until Dec, 2009)

Report submitted: March 26, 2010

Biddle et al (2010) Sedentary Behaviour and Obesity: Review of the Current Scientific Evidence

http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/documents/digitalasset/

Sedentary Behaviour in NI Primary School Children

by Lynda Hegarty, PhD Researcher, School of Sport



Study 1: Measured amount of time primary school children, their teachers and parents spent sitting in school



Key finding: Children spent 9.6 hours per day sitting – more time sitting than their teachers and parents.

Study 2: Intervention currently being designed to help reduce sitting time of children during school.



Waterford Institute of Technology



UNIVERSITY
of
LIMERICK
OLLSCOIL LUIMNIGH



UNIVERSITY OF
WOLVERHAMPTON



Physical Activity & Sedentary Behaviour

Online Survey n=9197 in 31 higher education institutions

- Classroom-administered survey of a representative sample of students

Physical Activity

- 66.7% of students (73% M, 60% F) meeting current PA guidelines

Time spent sitting

- 71% of students report sitting >7h per day on weekdays
- 56% of students report sitting >7h per day on weekend
- No difference by gender



REVIEW

Open Access



A systematic review of determinants of sedentary behaviour in youth: a DEDIPAC study

Annabel S. S.
Marie H. Mu
and on beha

O'Donoghue et al. *BMC Public Health* (2016) 16:163
DOI 10.1186/s12889-016-2841-3

BMC Public Health

RESEARCH ARTICLE

Open Access



A systematic review of correlates of sedentary behaviour in adults aged 18–65 years: a socio-ecological approach

Grainne O'Donoghue^{1†}, Camille Berchoux², Keithy Mansah², Jeroen Lakeneld³, Hidde van der Ploeg³,
Claire Bernaards⁴, Seba

on behalf of the DEDIPAC consortium

Chastin et al. *International Journal of Behavioral Nutrition and Physical Activity*
(2015) 12:127
DOI 10.1186/s12966-015-0292-3

 International Journal of Behavioral
Nutrition and Physical Activity

REVIEW

Open Access



Systematic literature review of determinants of sedentary behaviour in older adults: a DEDIPAC study

Sebastien F M Chastin^{1*}, Christoph Buck², Ellen Freiburger³, Marie Murphy⁴, Johannes Brug⁵, Greet Cardon⁶,
Grainne O'Donoghue⁷, Iris Pigeot², Jean-Michel Oppert⁸ and on behalf of the DEDIPAC consortium

Correlates of Sedentary Behaviour

Children

- Age
- Family TV viewing
- Low SEC
- Playground density
- Facility/equipment
- Eating in front of TV

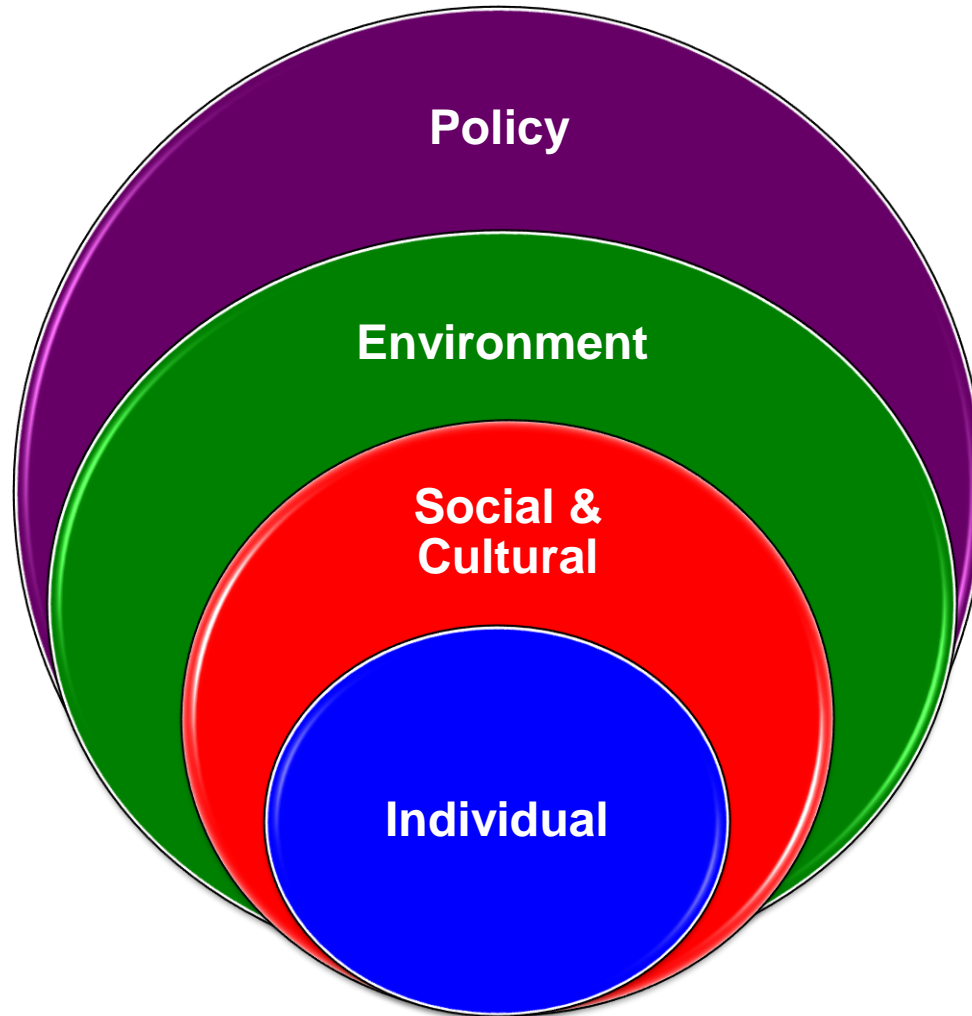
Adults

- Age
- Female
- Low physical activity
- Smoking
- Mobile phone use
- Access to green spaces
- Living in rural area

Older Adults

- Age
- Education
- Unemployment
- Retirement
- Loneliness
- Obesity
- Ill health

Changing behaviour



Digital interventions to reduce sedentary behaviour in the workplace

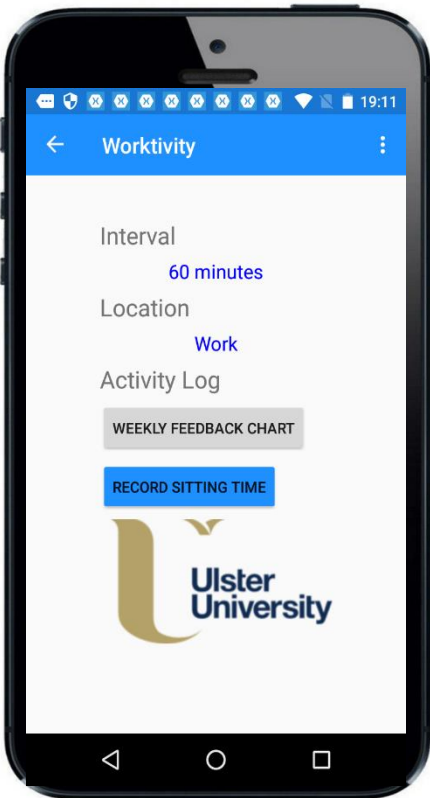
Aoife Stephenson, PhD researcher



- Systematic review and meta-analysis
- Focus Groups (Public/Private employees and employers)
- Intervention and App development
- Feasibility Trial and Process Evaluation

Stephenson, A, McDonough, SM, Murphy, MH, Nugent, Chris and Mair, JL. (2017) [Using computer, mobile and wearable technology enhanced interventions to reduce sedentary behaviour: a systematic review and meta-analysis](#). International Journal of Behavioural Nutrition and Physical Activity, 14 105





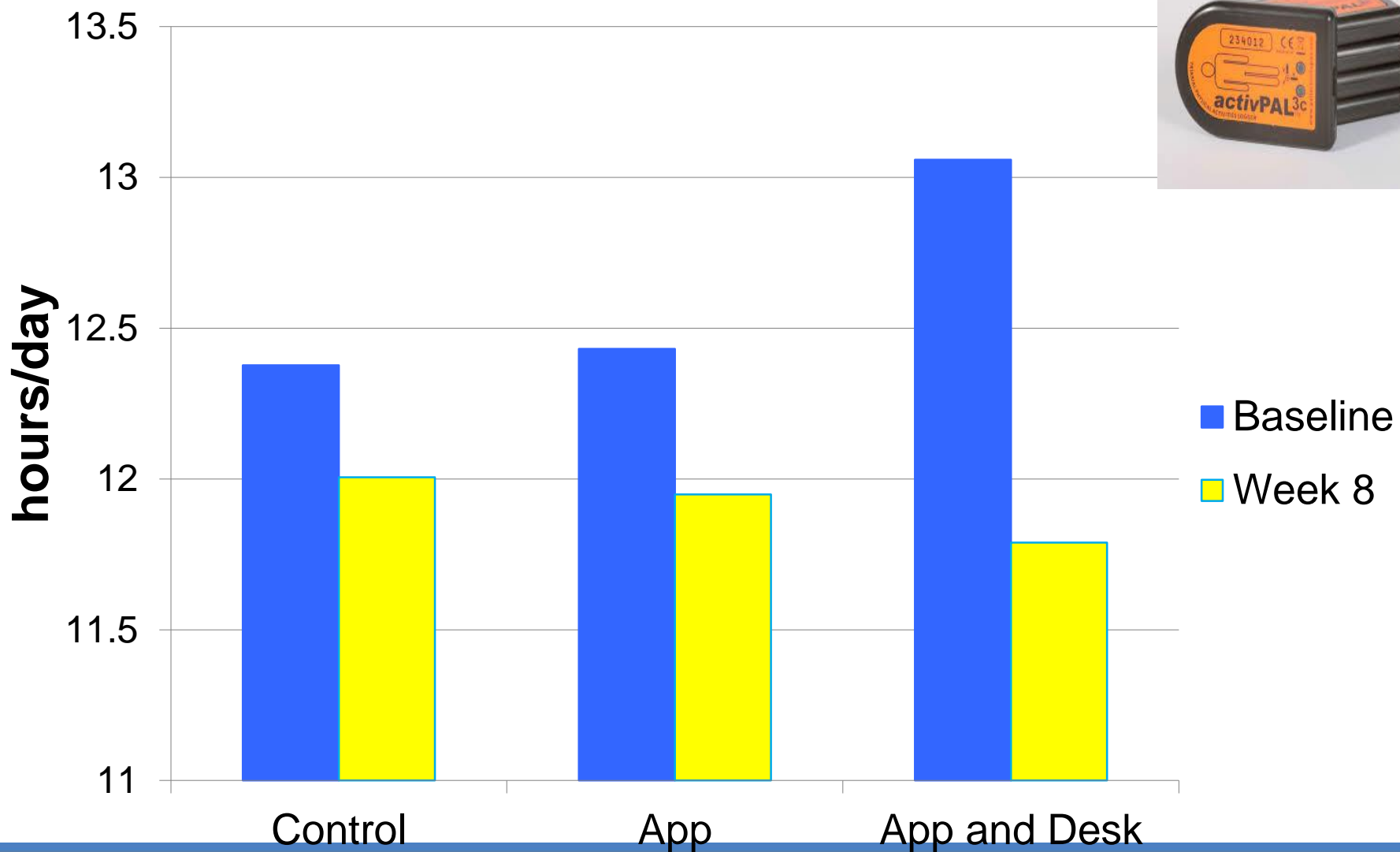
Self reporting and feedback

Goal Setting

Prompts to break sitting

Educational “Factoid”





Environments /Settings

- Nurseries, Crèches and Childcare facilities
- Primary and Secondary Schools
- Further and Higher Education
- Workplaces- including public and private sector
- Residential Care Homes



Changing sedentary behaviour culture

- Height adjustable workstations
- Breaks in school sitting
- Healthy meetings
 - encouraging breaks in sitting
 - normalise standing / moving

Healthy Meetings

SCPN



Scottish Cancer
Prevention Network

Directions to the meeting promoting ACTIVE travel

- Prior to the meeting, provide directions for the best walking and cycling routes
- Indicate the nearest bike racks
- Give walking directions from public transport

Opportunities for hourly, brief “comfort breaks” (for stretching and standing etc)

- Use natural breaks between agenda items or presentations

Chair encouragement to move, stand and/or stretch during the meeting

- Most rooms allow people to stand at the side without causing a disruption or blocking views
- Encourage the chairperson to lead by example
- Be sensitive to ability and disability level

Healthy Meetings

Please be upstanding!



This meeting is standing friendly. Please feel free to take standing and stretch breaks at the back of the room and break up that sedentary time!

#HealthyMeetings

3 take home messages

- Even for those meeting physical activity guidelines- prolonged uninterrupted sitting produces physiological changes which over time can damage health
- High proportions of the population spend too much time sitting during transport, work, school, college and in their leisure time
- Changing sedentary behaviour requires efforts at individual, interpersonal, environmental and policy levels including a culture change to make standing or breaking up sitting a normal part of the school/work day.



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