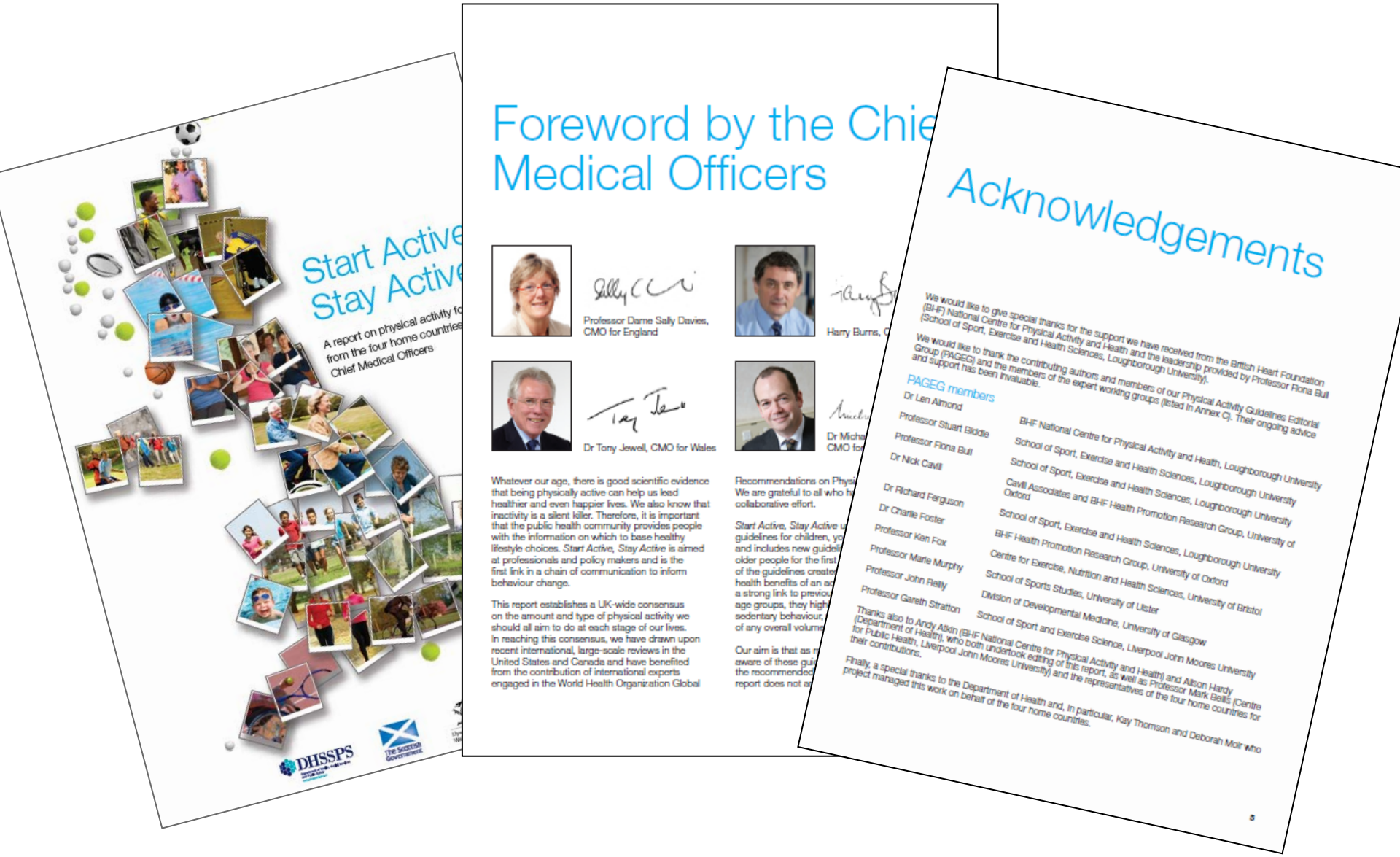
University of ULSTER

Start Active Stay Active :

The new UK physical activity guidelines by the 4 Chief Medical Officers

Marie H Murphy

The UK Physical Activity Guidelines 2011



Department of Health (2011) Start active, stay active: a report on physical activity from the four home countries' Chief Medical Officers.

Available at http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_128209

- What are guidelines?
- Why were NEW guidelines needed?
- How has the evidence changed /evolved?
- How were guidelines developed?
- What are they?….what's the same?…….what 's new?
- PA surveillance? How active are NI adults?

What are Physical Activity guidelines?

- Evidence-based summary statements on the preventive health benefits
- The represent a high level ‘consensus’ on the evidence
- They are the basis for the development of population based approach to physical activity

CSEP | SCPE
THE GOLD STANDARD IN EXERCISE SCIENCE AND PERSONAL TRAINING

CDC
CENTERS FOR DISEASE CONTROL AND PREVENTION

ACTIVE AUSTRALIA

Department of Health & Children
AN ROINN SLÁINTE AGUS LEANAÍ

DH Department of Health

What are PA guidelines?

They are **evidence based** statements to address:

- ‘how much’
- ‘for what’ benefit(s)
- ‘by whom’

usually specifying

- intensity, (e.g., moderate, vigorous),
- duration (e.g., 30 min),
- frequency (e.g., 5–7 d/week)
- type / mode – (aerobic, strength, etc)

Why change previous guidelines?

- **Inconsistencies within UK**
- **Getting old – new evidence available**
- **Some notable gaps**

Inconsistencies in previous guidelines

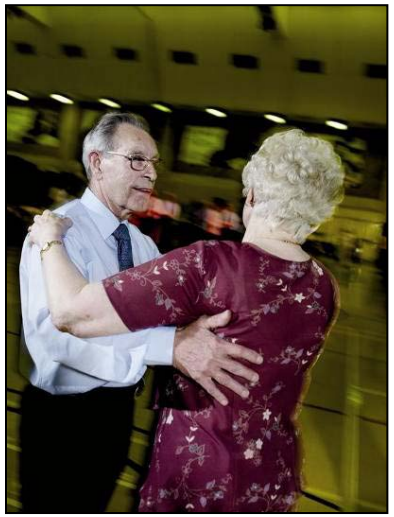
England	A total of at least 30 minutes of at least moderate intensity physical activity a day, on 5 or more days of the week
Scotland	At least 30 minutes of moderate physical activity on most days of the week
N Ireland	30 minutes of moderate intensity physical activity on most days of the week
Wales	30 minutes of moderate intensity activity on at least 5 days a week

Gaps in previous guidelines

People with disabilities

Early years (<5 yrs)

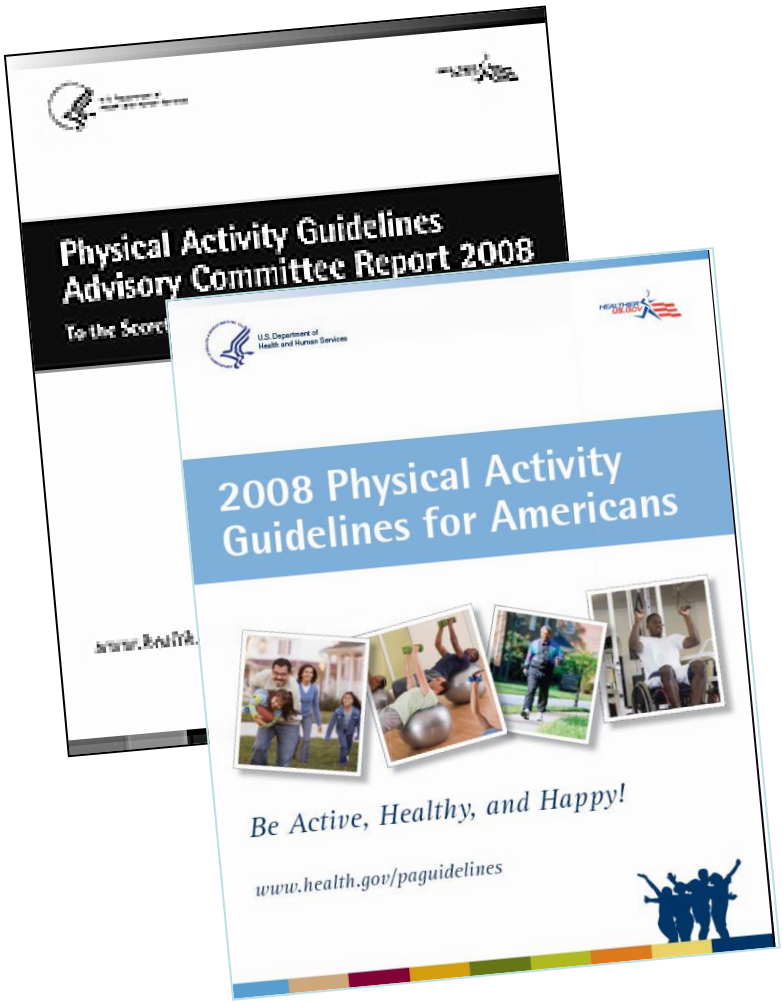
Older adults



Sedentary behaviour

For weight loss / maintenance

Opportunity and need coincided



Collaboration and Coordination

England	Department of Health	Paul Stonebrook / Kay Thompson
Scotland	NHS Health Scotland	Graeme Scobie
Wales	Welsh Assembly	Elaine McNish
N. Ireland	Public Health Agency	Kim Kensett

coordinated by
BHF National Centre, Loughborough- Fiona Bull /Charlie Watts/ Sonia McGeorge

The Process

Conceptualize

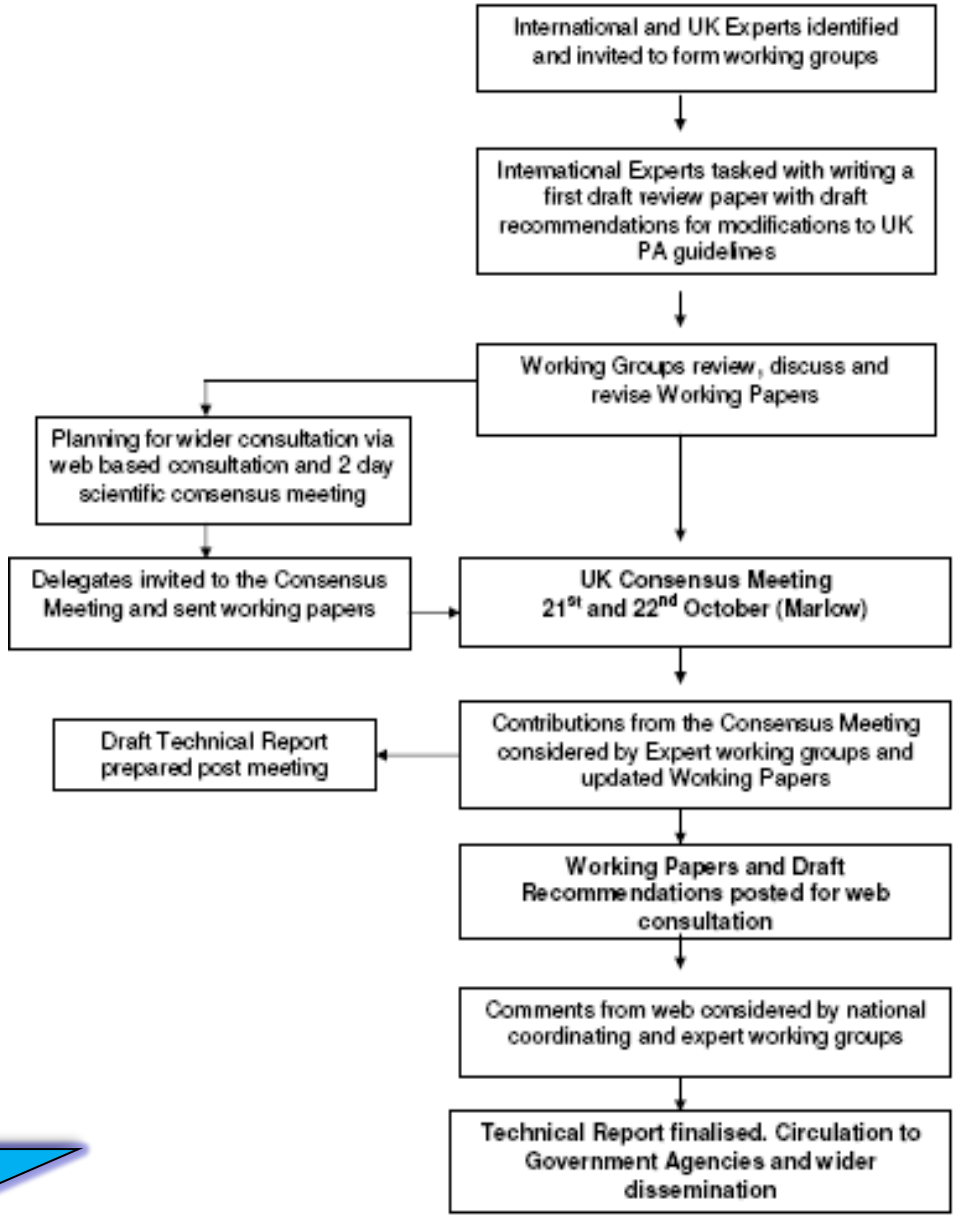
Engage (Sept 2010)

Develop

Consensus

Launch (July 2011)

Communicate and Disseminate



Evidence Review

Working Papers

Consensus Meeting

Draft recommendations

Web consultation

Technical Report

Expert Working Groups

Early Years

(<5 years)

- Professor John Reilly
- Dr Len Almond
- Dr Greet Cardon
- Professor Tony Okely

Adults

(19 - <65 years)

- Professor Bill Haskell
- Professor Nanette Mutrie
- Professor Marie Murphy
- Professor Nick Wareham

Children & Young People

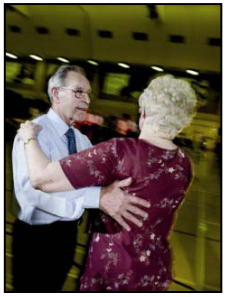
(5-18 years)

- Professor Mark Tremblay
- Professor Stuart Biddle
- Professor John Reilly
- Professor Chris Riddoch

Older Adults

(≥ 65 years)

- Professor Dave Buchner
- Professor Ken Fox
- Dr Richard Ferguson
- Dr Dawn Skelton



DH Department of Health

department for children, schools and families

Sedentary Behaviour and Obesity: Review of the Current Scientific Evidence

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 Gorely, Loughborough University
Professor Mark Griffiths, Nottingham Trent University
Dr Russ Jago, University of Bristol
Professor Jean-Michel Oppert, Pitie-Salpetriere 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-Rodríguez, University of Zaragoza, Spain
Dr Bryony Butland, 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/dh_128225.pdf

Early Years

- Parallel process
- Review of primary evidence
- Consultation process

Chair: Professor John Reilly

The evidence behind the recommendations

British Association of Sport & Exercise Sciences

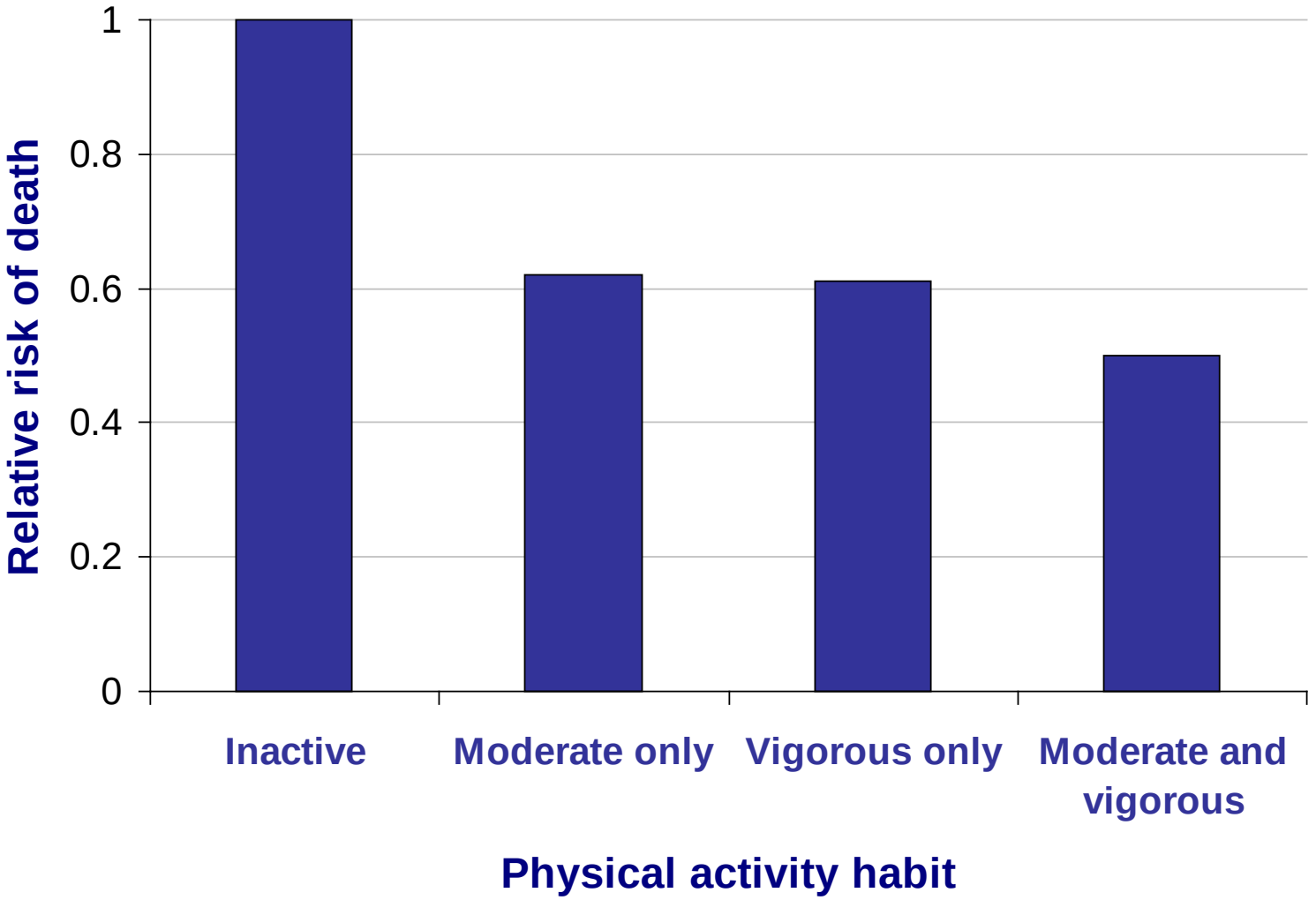
Expert Scientific Panel

Journal of Sports Sciences, April 2010; 28(6): 573–591

Routledge
Taylor & Francis Group

The ABC of Physical Activity for Health: A consensus statement from the British Association of Sport and Exercise Sciences

GARY O'DONOVAN[1], ANTHONY J. BLAZEVICH[2], COLIN BOREHAM[3], ASHLEY R. COOPER[4], HELEN CRANK[5], ULF EKELUND[6], KENNETH R. FOX[4], PAUL GATELY[7], BILLIE GILES-CORTI[8], JASON M. R. GILL[9], MARK HAMER[10], IAN McDERMOTT[11], MARIE MURPHY[12], NANETTE MUTRIE[13], JOHN J. REILLY[9], JOHN M. SAXTON[5], & EMMANUEL STAMATAKIS[10]



Physical activity habit and risk of death in 252,925 adults controlling for age, sex, BMI, smoking habit, race/ethnicity, education, marital status, family history of cancer, menopausal hormone therapy, aspirin use, diet and alcohol (Leitzmann *et al*., 2007).

Evidence for a causal relationship between physical activity and reduced risk of chronic diseases or conditions

Strength of association	Consistency	Temporal sequence	Biological plausibility	Experimental evidence	Dose-response
Cardiovascular disease					
✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓
Type 2 diabetes					
✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓
Overweight and obesity					
✓✓✓	✓✓	✓	✓✓✓	✓	✓

✓ = moderate evidence. ✓✓ = strong evidence. ✓✓✓ = very strong evidence.
'Very strong' strength of association refers to a two-fold increase in risk associated with inactivity after adjustment for confounding variables.

Evidence for a causal relationship between physical activity and reduced risk of chronic diseases or conditions

Strength of association	Consistency	Temporal sequence	Biological plausibility	Experimental evidence	Dose-response
Post-menopausal breast cancer					
✓✓	✓✓	✓✓	✓		✓
Colon cancer					
✓	✓✓	✓✓	✓		✓
*Prostate cancer**					
✓	✓	✓			

✓ = moderate evidence. ✓✓ = strong evidence. ✓✓✓ = very strong evidence. 'Very strong' strength of association refers to a two-fold increase in risk associated with inactivity after adjustment for confounding variables. *Evidence refers to the incidence of advanced prostate cancer observed in large cohort studies.

Evidence for a causal relationship between physical activity and reduced risk of chronic diseases or conditions

Strength of association	Consistency	Temporal sequence	Biological plausibility	Experimental evidence	Dose-response
Psychological well-being					
✓	✓		✓		✓
Clinical depression					
✓ ✓	✓	✓			✓
Cognitive impairment					
✓	✓✓	✓			

✓ = moderate evidence. ✓✓ = strong evidence. ✓✓✓ = very strong evidence.
'Very strong' strength of association refers to a two-fold increase in risk associated with inactivity after adjustment for confounding variables.

The process (continued)

Technical Report

Early Years Report

Sedentary Behaviour Report

Writing/ Editorial Group convened

Dr Len Almond - Loughborough
Prof Stuart Biddle – Loughborough
Prof Fiona Bull - Loughborough
Dr Nick Cavil – Cavil Associates
Dr Richard Ferguson - Loughborough
Dr Charlie Foster – Oxford
Prof Ken Fox – Bristol
Prof Marie Murphy –Ulster
Prof John Riley –Glasgow
Prof Gareth Stratton- Liverpool

Launch: July 11th 2011

FACTSHEET 1

Physical activity guidelines for

EARLY YEARS (UNDER 5s) – FOR INFANTS WHO ARE NOT YET WALKING

FACTSHEET 2

Physical activity guidelines for

EARLY YEARS (UNDER 5s) – FOR CHILDREN WHO ARE CAPABLE OF WALKING

1. Children of pre-school age who are capable of walking unaided should be physically active daily for at least 180 minutes (3 hours), spread throughout the day.*
2. All under 5s should minimise the amount of time spent being sedentary (being restrained or sitting) for extended periods (except time spent sleeping).

* Most UK pre-school children currently spend 120–150 minutes a day in physical activity, so achieving this guideline would mean adding another 30–60 minutes per day.

Individual physical and mental capabilities should be considered when interpreting the guidelines.

Examples of physical activity that meet the guidelines

Physical activity is likely to occur mainly through unstructured active play but may also include more structured activities. Activities can be of any intensity (light or more energetic) and may include:

- Activities which involve movements of all the major muscle groups, i.e. the legs, buttocks, shoulders and arms, and movement of the trunk from one place to another
- Energetic play, e.g. climbing frame or riding a bike
- More energetic bouts of activity, e.g. running and chasing games
- Walking/skipping to shops, a friend's home, a park or to and from a school

Minimising sedentary behaviour may include:

- Reducing time spent watching TV, using the computer or playing video games
- Reducing time spent in a pushchair or car seat – this can also help to break up long periods of sedentary behaviour

What are the benefits of being active for at least 180 minutes each day?

- Improves cardiovascular health
- Contributes to a healthy weight
- Improves bone health
- Supports learning of social skills
- Develops movement and co-ordination

For further information: *Start Active, Stay Active: A report on physical activity for health from the four home countries' Chief Medical Officers* (2011)

DHSSPS | The Scottish Government | Llywodraeth Cymru Wales Government | DH Department of Health

FACTSHEET 3

Physical activity guidelines for

CHILDREN AND YOUNG PEOPLE (5–18 YEARS)

1. All children and young people should engage in moderate to vigorous intensity physical activity for at least 60 minutes and up to several hours every day.

FACTSHEET 4

Physical activity guidelines for

ADULTS (19–64 YEARS)

1. 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.
2. Alternatively, comparable benefits can be achieved through 75 minutes of vigorous intensity activity spread across the week or combinations of moderate and vigorous intensity activity.
3. Adults should also undertake physical activity to improve muscle strength on at least two days a week.
4. All adults should minimise the amount of time spent being sedentary (sitting) for extended periods.

Individual physical and mental capabilities should be considered when interpreting the guidelines.

Examples of physical activity that meet the guidelines

Moderate intensity physical activities will cause adults to get warmer and breathe harder and their hearts to beat faster, but they should still be able to carry on a conversation. Examples include:

- Brisk walking
- Cycling

Vigorous intensity physical activities will cause adults to get warmer and breathe much harder and their hearts to beat rapidly, making it more difficult to carry on a conversation. Examples include:

- Running
- Sports such as swimming or football

Physical activities that strengthen muscles involve using body weight or working against a resistance. This should involve using all the major muscle groups. Examples include:

- Exercising with weights
- Carrying or moving heavy loads such as groceries

Minimising sedentary behaviour may include:

- Reducing time spent watching TV, using the computer or playing video games
- Taking regular breaks at work
- Breaking up sedentary time such as swapping a long bus or car journey for walking part of the way

What are the benefits of being active daily?

- Reduces risk of a range of diseases, e.g. coronary heart disease, stroke, type 2 diabetes
- Helps maintain a healthy weight
- Helps maintain ability to perform everyday tasks with ease
- Improves self-esteem
- Reduces symptoms of depression and anxiety

For further information: *Start Active, Stay Active: A report on physical activity for health from the four home countries' Chief Medical Officers* (2011)

DHSSPS | The Scottish Government | Llywodraeth Cymru Wales Government | DH Department of Health

FACTSHEET 5

Physical activity guidelines for

OLDER ADULTS (65+ YEARS)

1. Older adults who participate in any amount of physical activity gain some health benefits, including maintenance of good physical and cognitive function. Some physical activity is better than none, and more physical activity provides greater health benefits.
2. Older 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.
3. For those who are already regularly active at moderate intensity, comparable benefits can be achieved through 75 minutes of vigorous intensity activity spread across the week or a combination of moderate and vigorous activity.
4. Older adults should also undertake physical activity to improve muscle strength on at least two days a week.
5. Older adults at risk of falls should incorporate physical activity to improve balance and co-ordination on at least two days a week.
6. All older adults should minimise the amount of time spent being sedentary (sitting) for extended periods.

Individual physical and mental capabilities should be considered when interpreting the guidelines.

Examples of physical activity that meet the guidelines

Moderate intensity physical activities will cause older adults to get warmer and breathe harder and their hearts to beat faster, but they should still be able to carry on a conversation. Examples include:

- Brisk walking
- Ballroom dancing

Vigorous intensity physical activities will cause older adults to get warmer and breathe much harder and their hearts to beat rapidly, making it more difficult to carry on a conversation. Examples include:

- Climbing stairs
- Running

Physical activities that strengthen muscles involve using body weight or working against a resistance. This should involve using all the major muscle groups. Examples include:

- Carrying or moving heavy loads such as groceries
- Activities that involve stopping and jumping such as dancing
- Chair aerobics

Activities to improve balance and co-ordination may include:

- Tai chi
- Yoga

Minimising sedentary behaviour may include:

- Reducing time spent watching TV
- Taking regular walk breaks around the garden or street
- Breaking up sedentary time such as swapping a long bus or car journey for walking part of the way

What are the benefits of being active daily?

- Helps maintain cognitive function
- Reduces cardiovascular risk
- Helps maintain ability to carry out daily living activities
- Improves mood and can improve self-esteem
- Reduces the risk of falls

For further information: *Start Active, Stay Active: A report on physical activity for health from the four home countries' Chief Medical Officers* (2011)

DHSSPS | The Scottish Government | Llywodraeth Cymru Wales Government | DH Department of Health

Physical activity guidelines for the under 5s

Physical activity should be encouraged from birth, particularly through floor-based play and water-based activities in safe environments.

Children of pre-school age who are capable of walking unaided should be physically active daily for at least 180 minutes (3 hours), spread throughout the day.

All under fives should **minimise the amount of time spent being sedentary** (being restrained or sitting) for extended periods (except time spent sleeping).

Sedentary behaviour

- Minimise sedentary time
- Evidence for maximum time insufficient
- No quantified target yet

Physical activity guidelines for children and young people

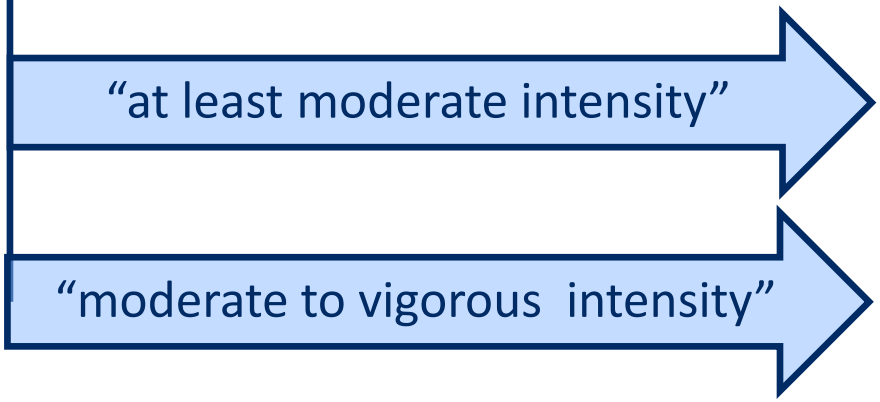
All children and young people should engage in **moderate to vigorous** intensity physical activity for at least 60 minutes and up to several hours every day.

Vigorous intensity activities, including those that strengthen muscle and bone, should be incorporated at least three days a week.

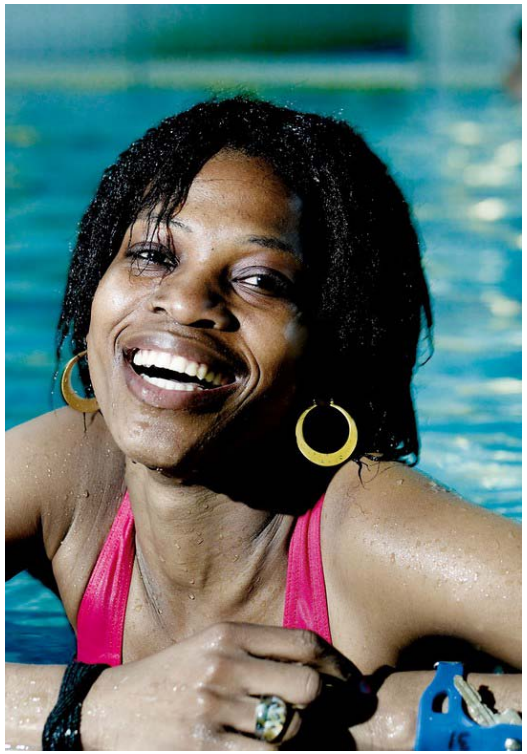
All children and young people should minimise the amount of time spent being sedentary (sitting) for extended periods.

Exercise intensity?

	Low Intensity	Moderate Intensity	Vigorous
% VO_2 max	<50%	50-65%	>65%
% HR max	<55%	55-70%	>70%
METS	1.5 – 2.9	3 - 6	> 6



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.

Accumulation of Physical Activity

Moderate to vigorous activity can be “accumulated” over the course of the day to meet the guidelines

Guidelines - still 10+ minutes

Emerging evidence for smaller bouts
Considered insufficient at this stage

Murphy MH, Blair SN and Murtagh EM (2009) Accumulated vs Continuous Exercise for health benefit: A review of empirical studies Sports Medicine 39 (2) 33-41

"I'm trying to fit 30 minutes of daily exercise into my busy schedule. Today I took 120 fifteen-second walks."

Physical activity guidelines for older adults

Older adults who participate in any amount of physical activity gain some health benefits, including maintenance of good physical and cognitive function. Some physical activity is better than none, and more physical activity provides greater health benefits.

Older 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.

For those who are already regularly active at moderate intensity, comparable benefits can be achieved through 75 minutes of vigorous intensity activity spread across the week or a combination of moderate and vigorous activity.

Physical activity guidelines for older adults

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

Older adults at risk of falls should incorporate **physical activity to improve balance and co-ordination** on at least two days a week.

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

Falls Prevention

30% of over 65s and 50% of over 80s fall each year

(Sherrington et al 2008 J Am Geriatrics Soc 56 (12) 2234-2243)

- Weight bearing to slow decline in bone density
- Resistance to slow decline in muscle mass
- Hip and leg strengthening in particular
- Balance and coordination exercise (eg Tai Chi, Dance)

Role of PA in weight management?

- Overweight individuals can gain health benefits from meeting guidelines even in the absence of any changes in weight status
- To reach a healthy weight additional physical activity and a reduction in energy intake may be required.

What's new….what's different?

- Lifecourse approach
- Stronger recognition of the role of vigorous activity
- Flexibility to combine moderate and vigorous
- Weekly target …daily activity
- Recommendations on sedentary behaviour
- Some activity better than none

*Guidelines are **not** in themselves "messages"*

- ***"Messages"*** are derived from Guidelines statements
- *They aim* to persuade individuals; to communicate PA as appealing and achievable; to motivate; encourage; to change attitudes; to influence behaviour
- ***"Messages"*** can and do have multiple purposes; can take many forms; and use a variety of channels; aimed at a variety of audiences

Developing Common messages (ongoing)

Development of messages is in progress led by BHF, BHFNC, Dept of Health

Process

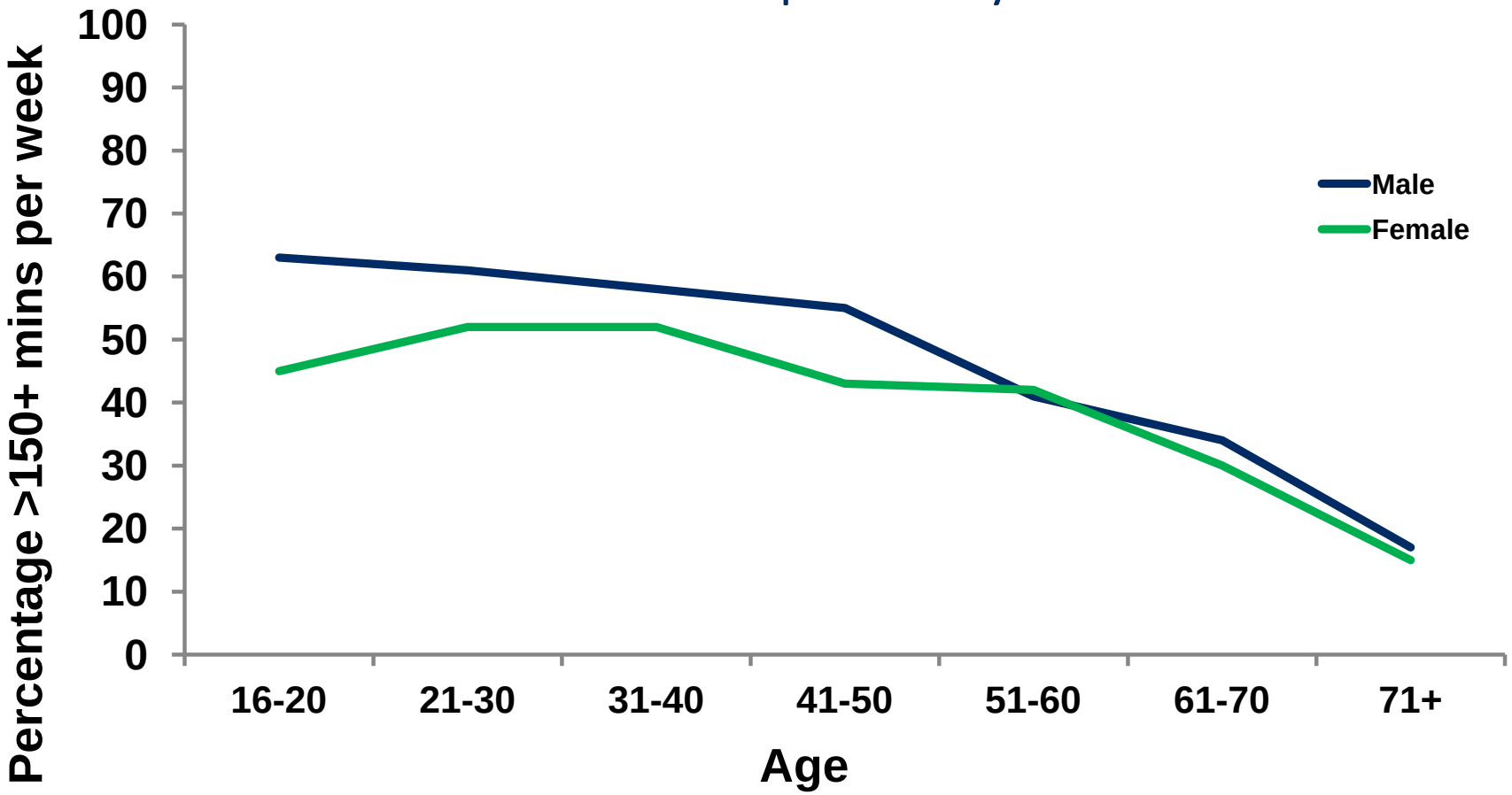
- Drafting message
- Review by PAGEG
- Consultation (focus group testing)
- Finalise
- Disseminate for wide spread use

Physical Activity in Northern Ireland?

Sport and Physical Activity Survey 2010 (Sport NI & Ipsos Mori)

4563 Adults (16+) -Self-reported physical activity (volume and intensity)

10+ mins in past 7 days



Murphy MH, Donnelly P, Shibli S, Foster C and Nevill A (2012) More walking, more briskly, more lean? An analysis of the Northern Ireland Sport and Physical Activity Survey. Preventive Medicine. 54 (2) 140-144

Physical Activity in Northern Ireland?

Lies…… damn lies and statistics…….

Using the NEW 150 mins per week guidelines (Start Active Stay Active)

- 42.7% are sufficiently active to gain health benefits

Using the previous guidelines (At least 5 a week)

- 35% achieve 30+ mins on 5+ days per week

Changing guidelines has implications for surveillance!

Murphy MH, Donnelly P, Shibli S, Foster C and Nevill A (2012) More walking, more briskly, more lean? An analysis of the Northern Ireland Sport and Physical Activity Survey. Preventive Medicine. 54 (2) 140-144

University of ULSTER

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