The importance of doing regular physical activity to health, society and the economy: Time for a major re-think

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Summary of Benefits of Physical Activity

Strong evidence of reduced rates of:
- All-cause mortality
- Coronary heart disease
- High blood pressure
- Stroke
- Metabolic syndrome
- Type 2 diabetes
- Breast cancer
- Colon cancer
- Depression
- Falling

Strong evidence of:
- Increased cardiorespiratory and muscular fitness
- Healthier body mass and composition
- Improved bone health
- Increased functional health
- Improved cognitive function

Economic cost of inactivity £1bn per year

Figure 8: Respondents meeting the recommended physical activity levels by age and sex

[Bar chart showing percentage of respondents meeting recommended physical activity levels by age group (16-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75+).]
Comparison of global burden between smoking and physical inactivity

<table>
<thead>
<tr>
<th>Prevalence</th>
<th>Hazard ratio</th>
<th>PAR</th>
<th>Global deaths per year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking</td>
<td>Inactivity</td>
<td>Smoking</td>
<td>Inactivity</td>
</tr>
<tr>
<td>26%</td>
<td>35%</td>
<td>1.57</td>
<td>1.28</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8.7%</td>
<td>9.0%</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>5.1 million</td>
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<td></td>
<td></td>
<td></td>
<td>5.3 million</td>
</tr>
</tbody>
</table>

The Lancet 2012; 380:192-193
Why are people inactive?

People

Biology
Psychology
Social/cultural factors
Why are people less active?

People
Biology
Psychology
Social/cultural factors

Environment
Reliance on cars
Computers at work
Electronic entertainment
‘Walkability’

- Residential Density
- Intersection Density
- Land Use Mix
- Net Retail Area
Accelerometer-based MVPA Min/day in Walkability-by-Income Quadrants

<table>
<thead>
<tr>
<th></th>
<th>Low Income</th>
<th>High Income</th>
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<tbody>
<tr>
<td>Low Walk</td>
<td>28.5</td>
<td>29.0</td>
</tr>
<tr>
<td>High Walk</td>
<td>33.4</td>
<td>35.7</td>
</tr>
</tbody>
</table>

THE ROLE OF Communities IN PROMOTING PHYSICAL ACTIVITY

WALKABLE COMMUNITIES
People who live in walkable neighborhoods are 2 times as likely to get enough physical activity as those who don’t.

84% higher when schoolyards are kept open for public play.

RECREATIONAL FACILITIES
Teens who live in poor or mostly minority neighborhoods are 50% less likely to have a recreational facility near home.

TRAILS
People who live near trails are 50% more likely to meet physical activity guidelines.

Active Living Research
www.activelivingresearch.org

Sources:
Toronto Charter for Physical Activity

Introduce policy that supports physical activity across multiple sectors

Implement a national policy and action plan for physical activity

Reorient services and funding to prioritise physical activity

Develop partnerships for action
Novel interventions to encourage a maintained behaviour change
Individual level approaches

Active “ingredients”

• Self-monitoring
• Goal setting
• Social support
Physical Activity Loyalty Cards for Behavior Change
A Quasi-Experimental Study

Ruth F. Hunter, PhD, Mark A. Tully, PhD, Michael Davis, MSc,
Michael Stevenson, BSc, Frank Kee, MD
Complete 30 minutes of physical activity
Collect 30 points
Keep getting active and earning points
Earn rewards

Cinema vouchers
Sandwich vouchers
Gym passes
Decathlon/Ice Bowl
Beauty vouchers

Free Sandwich 125 points
Free Class Pass 200 points
Free Cinema Pass 250 points
Free session of Tenpin Bowling, Ice Skating or Indiana Land 260 points
£5 Voucher 250 points
£10 Voucher 500 points
2 Free Cinema Passes 500 points
£10 Voucher 500 points
£10 Voucher for 3G Pitch 750 points
5 Free Class Passes 1000 points
£20 Voucher 1000 points
Free Personal Training Session 1250 points
10 Free Class Passes 1400 points
Free Gym Membership for you and a guest 1400 points
Healthy environments and sustainability

Physical and social environments?

Life-course approaches

e.g. sustainable independent living for older people

“The futility of isolated initiatives…” Foresight: Tackling Obesity. 2007
Physical Activity and the Built Environment

- A 9km linear park, a wildlife corridor
- Connecting 124Ha of open space
- 43 new bridges
- 16 kms of foot and cycle paths
- 5 kms of clean rivers
- 6 tourism and heritage trails
- A civic square

www.communitygreenway.co.uk
Aim:

- Assess the impact of a range of interventions designed to promote activity;
- Determine the role of the built environment in promoting physical activity;
- Establish the role of individual, community and organisational networks;
- Examine the cost effectiveness of these approaches.

- Natural experiment
- £1.2 million funding
- Before and after household survey (1200 x 2)
- Regional comparison survey (SportNI)
- Network and social capital analysis
- Process evaluation
- Economic and behavioural economics analysis
Number of new **chronic diseases** prevented over 40 years, if 2%, 5% or 10% of those currently inactive in the Greenway population, become active.

Number of **deaths** prevented from chronic diseases over 40 years, if 2%, 5% or 10% of those currently inactive in the Greenway population, become active.

Greening of vacant lots

- 4,436 vacant lots totalling over 7.8 million square feet

Vacant lot greening was associated with:

- consistent reductions in gun assaults
- consistent reductions in vandalism
- residents’ reporting less stress
- residents’ reporting more exercise
Summary

- Physical inactivity – major public health concern
- Proven benefits
- Need for novel interventions
- Need to move beyond individual level approaches
- Integration into policies

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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