



# Response to Public Consultation for 'Ireland 2040 – Our Plan'

March 2017

## Key Messages

- Modifiable behavioural risk factors (tobacco use, physical inactivity, unhealthy diet and the harmful use of alcohol) increase the risk of chronic disease.
- There is a clear relationship between behavioural risk factors and the physical environment within which people live. Features of the physical environment influence the amount of physical activity people engage in, the food choices they make, levels of alcohol consumption, smoking and health and wellbeing of people in older age. The built environment, transport access and a range of environmental factors (i.e., pollution, noise) also impact significantly on health and wellbeing.
- Actions to tackle smoking, obesity, alcohol and physical inactivity have the potential to realise significant cost-benefit to the state. The cost of chronic disease to the healthcare system and to the state is unsustainable. Ninety per cent of our total healthcare costs are spent on the 30% of the population with chronic diseases.
- All sectors have a role to play in supporting people to maintain their health. Healthy Ireland has established a vision for keeping people well and has highlighted the need for cross-sectoral actions to advance this vision.
- The consultation document *Ireland 2040- our issues and choices* does not go far enough in describing the issues and the urgent need for built environment planning that prioritises health and wellbeing.
- There is a major opportunity for the future National Planning Framework (NPF) to positively impact upon health and wellbeing.
- The future NPF should draw from the Healthy Ireland Framework and related national policies and strategies to ensure health and wellbeing are prioritised in the future development of Ireland.
- National policies relating to health and wellbeing which should be an integral part of development of the NPF include:
  - The National Physical Activity Plan (2015)
  - The National Obesity Policy and Action Plan (2016)
  - Tobacco Free Ireland (2013)
  - The National Positive Ageing Strategy (2013)
  - The National Dementia Strategy (2014)

## **Specific recommendations for inclusion in the National Planning Framework (NPF)**

- The NPF should ensure congruence with the multi-sector working of Healthy Ireland, which recognises the intertwined relationships between health and wellbeing and social protection, industry, food safety, education, transport, housing, agriculture and the environment, and work with the mechanisms established under the auspices of Healthy Ireland.
- The NPF should explicitly support implementation of the National Physical Activity Plan. It should specify concrete actions and identify responsibilities of planning authorities in relation to legislation for active travel; national cycling and smart travel policy; and prioritisation of physical activity and health and wellbeing in local and regional planning processes.
- The Ireland 2040 Our Plan- Issues and Choices document does not mention the importance of a smoke free environment for all Irish people, especially children. The NPF should reference Tobacco Free Ireland measures on smoke-free environments (schools, third level campuses, parks and playgrounds, healthcare facilities) and should outline responsibilities of local and national planning authorities in relation to full implementation of these measures.
- Provision should be made in the NPF for the introduction of ‘no fry zones’ in the vicinity of schools with the aim of reducing exposure of children to the promotion of HFSS (high fat, salt and sugar) foods.
- RCPI calls on national and local planning authorities to support the introduction of the Public Health Alcohol Bill, and recommends that the bill is referenced within the NPF. We also propose that the framework address the issue of alcohol availability from a planning and health perspective.
- RCPI recommends that the NPF recognises the benefits and complexities arising from population ageing, and ensures that its policies are gerontologically-attuned to ensure that planning of vital aspects of infrastructure, systems, commerce and services takes into account the contributions and needs of an ageing society.

# 1. Introduction

This document is a submission from the Royal College of Physicians of Ireland to the initial consultation on the *Ireland 2040 National Planning Framework (NPF)*, launched by Minister Simon Coveney in February 2017. The response has been developed with reference to the document *Ireland 2040 Our Plan- Issues and Choices* published by the Department of Housing, Planning and Community and Local Government in February 2017.

The Royal College of Physicians of Ireland (RCPI) has a longstanding record of leadership in the area of public health policy. We have a number of policy groups comprised of members, fellows and trainees from a range of medical specialities within RCPI, representatives from other medical and healthcare professions, and relevant advocacy organisations. These policy groups are concerned with many of the modifiable behavioural risk factors (tobacco use, physical inactivity, unhealthy diet and the harmful use of alcohol) that increase the risk of chronic disease.

## 2. The built environment and our health

There is now a robust body of literature on the relationship between health and place, which examine issues such as how the built environment influences physical activity behaviours <sup>1 2</sup>socio-economic deprivation and self-rated health, <sup>3</sup> and healthy urban environments<sup>4</sup>. The impact of poorly designed housing, land use and transport systems are recognised as harmful influences on health and wellbeing.

There is no doubt that the environment in which we live influences the lifestyle choices we make. This influence can be towards positive lifestyle choices, such as getting the recommended amount of physical activity.<sup>5 6 7</sup> The environment can also influence lifestyle choices that impact negatively upon health such as smoking, consumption of unhealthy foods, excessive alcohol consumption and being physically inactive.

It is estimated that in 2017, more than half a million Irish people will have at least one chronic disease, while three quarters of deaths in 2014 were due to the four chronic diseases of cancer, cardiovascular disease, respiratory and diabetes.<sup>8</sup> Many of these diseases are caused or worsened by risk factors such as tobacco use, overweight and obesity, alcohol consumption and physical inactivity. Prevalence of chronic conditions and accompanying lifestyle factors are also strongly influenced by socio-economic status, level of education, employment and housing.

### Physical Activity

Walkability, traffic speed and volume, land use mix, residential density and access or proximity to recreation facilities are connected with levels of physical activity in children, while there is a consistent connection between physical activity in adults and recreation facilities and locations, transportation environments and aesthetics .<sup>9 10</sup>

The importance of this cannot be overstated. Physical inactivity has been identified as the fourth leading risk factor for global mortality.<sup>11</sup> In Ireland it is responsible for 8.8 % of the disease burden from coronary heart disease; 10.9 % of type 2 diabetes; 15.2 % of breast cancers and 15.7 % of colon cancers<sup>12</sup>. Engaging in regular physical

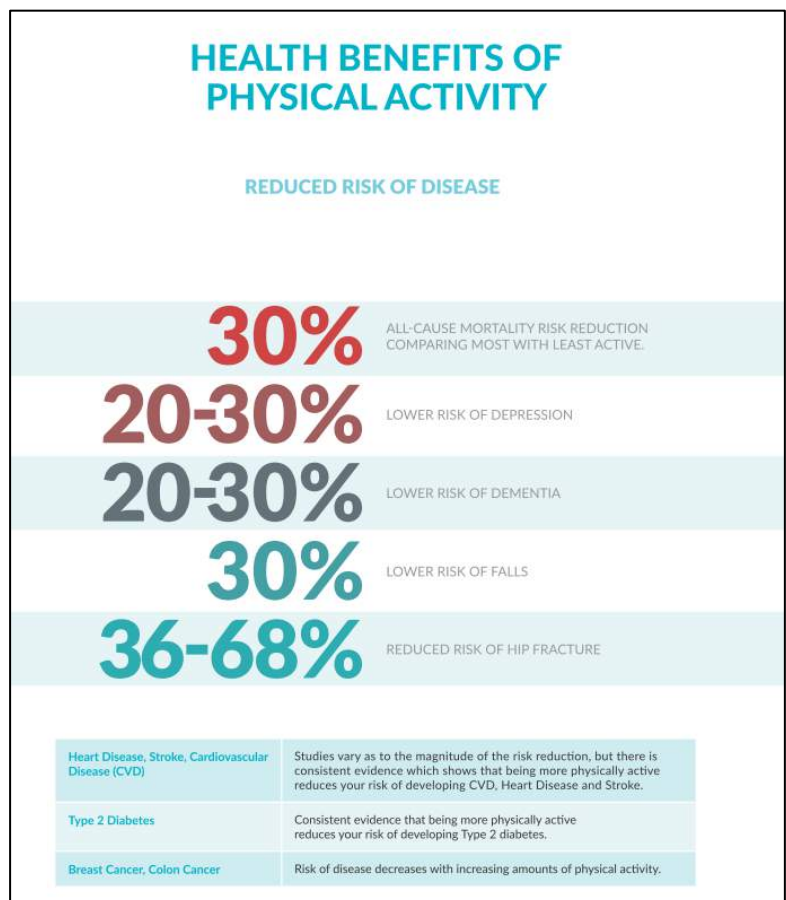


Figure 1: Health Benefits of Physical Activity

activity reduces the risk of developing many chronic conditions such as cardiovascular diseases, stroke, diabetes and certain malignancies such as colon and breast cancer (see figure 1)

## **Smoking**

In Ireland we have seen how smoke-free environments have had a positive impact on health behaviours. Research has shown that Ireland's smoke-free workplace legislation, introduced in March 2004 was accompanied by a drop in smoking prevalence in both bar workers and the general population<sup>13</sup>.

In 2013, 5,950 premature deaths were attributed to smoking and exposure to second-hand smoke, along with over 200,000 hospital episodes. <sup>14</sup>

## **Obesity**

Prevalence of fast food outlets and excessive marketing of unhealthy food items can influence people to consume higher calorie foods.<sup>15 16 17 18</sup> Reduced levels of physical activity also impact upon weight and contribute towards high obesity levels.

1 in 4 Irish children and 2 out of every 3 Irish adults are overweight or obese. Obesity is one of the major risk factors and worsens outcomes for cardiovascular disease, diabetes and cancer. Severely obese people have a premature mortality similar to smokers and on average die eight to ten years earlier than people of normal weight. <sup>15</sup>

## **Alcohol**

As a child protection issue, children's exposure to alcohol marketing within the physical environment, in which they live, play and learn, should be limited. Children have a right to walk to school, stand at a bus stop, and play in the park without being exposed to alcohol marketing.

Irish research shows that the average child is exposed to 7 types of alcohol and this level of exposure was associated with heightened risks of dangerous drinking behaviours, including a more than 400% increase in the risk of binge drinking and drunkenness. <sup>19</sup>

We also know from international research, including systematic reviews, that density of alcohol sales outlets in a given area is associated with increased alcohol consumption.<sup>20 21 22 23</sup> In Scotland researchers found that neighbourhoods with higher numbers of alcohol sales outlets had significantly high alcohol related death rates and alcohol related hospitalisations.<sup>24</sup> A recent longitudinal study published earlier this year (2017) found an association between the amount of alcohol consumed by younger drinkers and an increase in alcohol licences over time.<sup>25</sup>

In Scotland alcohol-related death rates in neighbourhoods with the most alcohol outlets were found to be more than double the rates in those with the fewest outlets.

In a 10 year period, there were 34 alcohol-related deaths per 100,000 people in neighbourhoods with the most off-sales outlets, compared with 13 per 100,000 in neighbourhoods with the fewest.<sup>24</sup>

Three deaths a day in Ireland are alcohol related and more than 1 in 10 breast cancer cases are attributed to alcohol.<sup>26</sup>

### **Older Adults**

The lifestyle behaviours of older adults are influenced by the factors mentioned above. Additionally, as people age, their ability to live independently, to maintain positive health behaviours, and to access health services will be influenced in specific ways by the environment around them.

One example of this is in the area of physical activity. Being physically active in older age reduces the likelihood of falls and of functional limitations.<sup>27 28</sup> It can improve cognitive function, reducing risk of dementia and delaying its progression.<sup>29 30</sup> Results from the Irish Longitudinal Study on Ageing (TILDA) show that older adults with high levels of physical activity report greater participation in social activities, better quality of life and lower loneliness scores compared to those with low physical activity levels<sup>31</sup>

## Chronic disease and its economic cost

Action to tackle smoking, obesity, alcohol and physical inactivity has the potential to realise significant cost-benefit to the state. The cost of treating preventable chronic disease threatens to bankrupt not only the future healthcare system, but the nation. Ninety per cent of our total healthcare costs are spent on the 30% of the population with chronic diseases.<sup>8</sup>

The cost of physical inactivity is estimated to be approximately €1.5 billion annually.<sup>32</sup>

Total smoking related healthcare costs in Ireland were estimated at €466 million in 2013.<sup>14</sup>

The estimated cost of overweight and obesity was €1.13 billion in 2009, of which direct healthcare costs were almost €400m.<sup>33</sup>

The estimated cost to the health system in 2012 of dealing with inpatients with either a wholly or partially alcohol-attributable condition was €1.5 billion, which accounted for 11% of all public healthcare expenditure that year.<sup>26</sup>

Not only will it make for healthier happier people in 2040 but the country will be spending less money on healthcare if primary prevention measures and policies are adopted into practice.

### 3. Health and Wellbeing - the responsibility of all sectors

Keeping people well must be seen as the responsibility of all sectors, not only healthcare. The social determinants of health are a range of factors that impact upon health and wellbeing. These include the circumstance in which people are born, grow up, live, work and age.<sup>34</sup> The determinants of health arise in all sectors of society. This means that all government sectors have the opportunity to influence some or all of these determinants.

Healthy Ireland has established a vision for keeping people well and has highlighted the need for cross-sectoral actions to advance this vision. The future NPF should reference this vision. It should draw from the Healthy Ireland Framework and related national policies and strategies to ensure health and wellbeing are prioritised in the future development of Ireland.

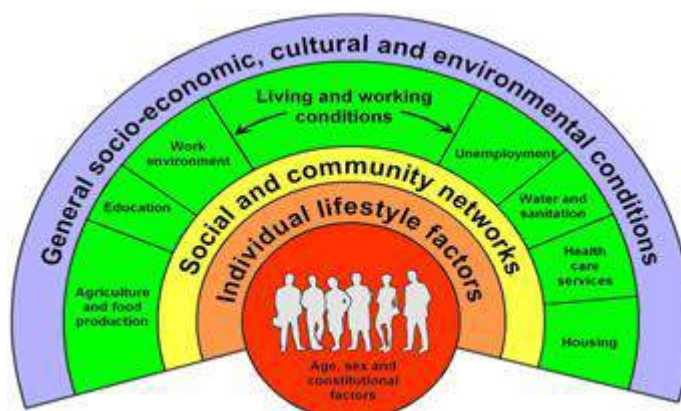


Figure 2- Dahlgren and Whitehead-: Social Determinants of Health



## 4. Comment on *Ireland 2040*

The inclusion of a section on health and wellbeing is to be welcomed. It acknowledges that the built environment is an important determinant of health. However, it does not go far enough in describing the issues and the urgent need for built environment planning that prioritises health and wellbeing. We have many excellent national policies relating to health and wellbeing that include specific actions relevant to planning and the built environment. These national policies should be referenced in *Ireland 2040* documentation, and the NPF should provide a roadmap for implementation of all relevant actions. These policies are as follows:

- Tobacco Free Ireland (2013) <sup>35</sup>
- National Physical Activity Plan (2015) <sup>36</sup>
- National Obesity Policy and Action Plan (2016) <sup>37</sup>
- Alcohol- Public Health Alcohol Bill <sup>38</sup>
- The National Positive Ageing Strategy (2013) <sup>39</sup>
- The National Dementia Strategy (2014)<sup>40</sup>

## 5. Specific Actions to be included in the NPF

The recommendations below are drawn from policy statements published by RCPI in recent years through its expert policy groups. Recommendations from these groups are developed based on review of evidence of what works, and in many cases have already been adopted into national policy. The NPF presents an opportunity to turn the recommendations below into concrete actions for national and local planning authorities, with a real, long term positive impact on national and local health and wellbeing.

### Physical Activity

**RCPI recommends that the NPF should explicitly support implementation of the National Physical Activity Plan. It should specify concrete actions and identify responsibilities of planning authorities in relation to legislation for active travel; national cycling and smart travel policy; and prioritisation of physical activity and health and wellbeing in local and regional planning processes.**

RCPI's 2016 Policy Statement on Physical Activity- *A prescription for a wonder drug* <sup>41</sup> outlined a number of recommendations under environment, transport and planning which are of relevance for the development of the NPF. Specifically, these relate to 1) legislation for active travel, 2) actions from the Smarter Travel Policy and National Cycle Policy Framework and 3) Local and Regional Planning actions

#### 1) Legislation for active travel

RCPI has called for legislation to place actions under environment in the National Physical Activity Plan (NPAP) on a statutory basis.

- Ensure that the planning, development and design of towns, cities and schools promotes cycling and walking with the aim of delivering a network of cycle routes and footpaths. (NPAP action 33)
- Ensure that the planning, development and design of towns and cities promotes the development of local and regional parks and recreational spaces that encourage physical activity. (NPAP action 34)
- Prioritise the planning and development of walking and cycling and general recreational /physical activity infrastructure. (NPAP action 36)
- Explore opportunities to maximise physical activity and recreation amenities in the natural environment. (NPAP action 37)

The Active Travel (Wales) act <sup>42</sup> provides a model for such legislation. The Act requires local authorities in Wales to produce active travel maps and deliver year on year improvements in active travel routes and facilities. It requires highways authorities in Wales to make enhancements to routes and facilities for pedestrians and cyclists in all new road schemes and to have regard to the needs of walkers and cyclists in a range of other highway authority functions. It also requires the Welsh Ministers and local authorities to promote active travel journeys in exercising their functions under this Act.

## **2)Smarter Travel and National Cycle Policy**

- Review progress on implementation of the Smarter Travel Policy (2009)
- Complete and publish the mid-tem review of the National Cycle Policy Framework (2009)
- Specify more ambitious targets for the National Cycle Policy Framework (2009).
- Develop a coordinated approach for implementation of outstanding actions from these two policies and prioritise those that are focused on safety.

## **3)Local and regional planning**

- Develop a process to ensure that planning applications prioritise the need for people to be physically active as a routine part of their daily life.
- Make health and wellbeing a central component of local and regional development plans.
- Ensure local transport planning considers the need for transport links to local facilities for physical activity, especially for disadvantaged groups.

## Tobacco/Smoking

**It is important to highlight that the *Ireland 2040 Our Plan- Issues and Choices* document does not mention the importance of a smoke free environment for all Irish people, especially children. RCPI calls for the NPF to reference *Tobacco Free Ireland* measures on smoke-free environments (schools, third level campuses, parks and playgrounds, healthcare facilities) and to outline responsibilities of local and national planning authorities in relation to full implementation of these measures.**

In its 2014 Policy Statement on Tobacco<sup>43</sup>, RCPI expressed its support for *Tobacco Free Ireland* which outlined plans for protection of children and denormalisation of tobacco use in Ireland. It committed to

- Introduction of legislation requiring all schools, and child care facilities to be tobacco free.
- Promotion of tobacco free campuses in third level institutions.
- Promotion of tobacco free campuses for all healthcare, governmental and sporting facilities.
- Development of the tobacco free playgrounds initiative in conjunction with local authorities
- Promotion of tobacco environments, in particular parks and beaches in conjunction with local authorities.

The benefits of these measures will be twofold. These measures will lead to the further denormalisation of tobacco use. In addition a smoke free environment in schools, campuses, workplaces, and other public areas will assist in protecting individuals from the harms of second hand smoke.

## The obesogenic environment

**RCPI calls for provision in the NPF for the introduction of ‘no fry zones’ in the vicinity of schools with the aim of reducing exposure of children to the promotion of HFSS (high fat, salt and sugar) foods.**

RCPI in its previous policy statement has emphasised<sup>15</sup> that the environment impacts on obesity, not only in relation to the opportunities it presents for people to be physically active, but also in relation to the food choices people are presented with. Careful consideration should be given, in particular, to limit children’s exposure to promotion of HFSS (high fat, salt and sugar) foods.

## Alcohol

**RCPI calls on national and local planning authorities to support the introduction of the Public Health Alcohol Bill, and recommends that the bill is referenced within the NPF. We also propose that the Framework address the issue of alcohol availability from a planning and health perspective**

The Public Health Alcohol Bill <sup>38</sup> contains many measures which will help to reduce health harm from alcohol in communities across Ireland. RCPI has publicly called for swift implementation of this bill to reduce alcohol related deaths and hospitalisations.

Provisions of the bill that may be of specific interest to local planning authorities are prohibitions on advertising in certain places, including close to school and early years services and at local authority parks and playgrounds.

RCPI has also previously called for action to reduce alcohol availability.<sup>44</sup> We also propose that there should be a reduction in the number of outlets where alcohol can be purchased. To date, these matters have been dealt with from a criminal justice perspective. The NPF presents an opportunity to highlight this from a planning and health perspective.

## Older Adults

RCPI recommends that the NPF recognises the benefits and complexities arising from population ageing, and ensures that its policies are gerontologically-attuned to ensure that planning of vital aspects of infrastructure, systems, commerce and services takes into account the contributions and needs of an ageing society.

Arguably the most significant social development of the last century has been the collective ageing of our populations, bringing both a longevity dividend <sup>45</sup>but also new complexities for the provision of services across a wide range of areas relevant to national planning. Ageing is characterised by increased inter-individual variability and a key principle of planning and design is that if you design for old people, you include the young: if you design for young people, you exclude the old. Given the individual and collective stake we all have in our own future ageing, it is vitally important that the NPF is suitably reviewed through the prism of gerontological expertise to ensure that planning of vital aspects of infrastructure, systems, commerce and services takes into account the contributions and needs of an ageing society.

## References

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- <sup>1</sup> Rodríguez DA, Cho GH, Evenson KR, Conway TL, Cohen D, Ghosh-Dastidar B, Pickrel JL, Veblen-Mortenson S, Lytle LA. Out and about: association of the built environment with physical activity behaviors of adolescent females. *Health Place*. 2012 Jan;18(1):55-62.
- <sup>2</sup> Mertens L, Compernelle S, Deforche B, Mackenbach JD, Lakerveld J, Brug J, Roda C, Feuillet T, Oppert JM, Glonti K, Rutter H, Bardos H, De Bourdeaudhuij I, Van Dyck D. Built environmental correlates of cycling for transport across Europe. *Health Place*. 2017 Mar;44:35-42
- <sup>3</sup> Xiao Q, Berrigan D, Matthews CE. A prospective investigation of neighbourhood socioeconomic deprivation and self-rated health in a large US cohort. *Health Place*. 2017 Mar;44:70-76.
- <sup>4</sup> Audrey S, Batista-Ferrer H. Healthy urban environments for children and young people: A systematic review of intervention studies. *Health Place*. 2015 Nov;36:97-117
- <sup>5</sup> National Heart Alliance and the Irish Heart Foundation. Physical Activity Young People and the Physical Environment. National Heart Alliance 2006.
- <sup>6</sup> Kahn EB, Ramsey LT, Brownson RC, Heath GW, Howze EH, Powell KE, Stone EJ, Rajab MW, Corso P. The effectiveness of interventions to increase physical activity. A systematic review. *Am J Prev Med*. 2002 May;22(4 Suppl):73-107. Review. PubMed PMID: 11985936.
- <sup>7</sup> Sallis JF, Cerin E, Conway TL, Adams MA, Frank LD, Pratt M, Salvo D, Schipperijn J, Smith G, Cain KL, Davey R, Kerr J, Lai PC, Mitáš J, Reis R, Sarmiento OL, Schofield G, Troelsen J, Van Dyck D, De Bourdeaudhuij I, Owen N. Physical activity in relation to urban environments in 14 cities worldwide: a cross sectional study. *Lancet*. 2016 May 28;387(10034):2207-17.
- <sup>8</sup> HSE (2016) Planning for Health: Trends and Priorities to Inform Health Service Planning.
- <sup>9</sup> Bauman AE, Reis RS, Sallis JF, Wells JC, Loos RJ, Martin BW; Lancet Physical Activity Series Working Group. Correlates of physical activity: why are some people physically active and others not? *Lancet*. 2012 Jul 21;380(9838):258-71.
- <sup>10</sup> National Institute for Health and Care Excellence. Physical activity and the environment. Public health guideline (PH8) NICE, 2008.
- <sup>11</sup> World Health Organisation. Global Health Risks- Mortality and burden of disease attributable to selected major risks. Geneva, WHO, 2009
- <sup>12</sup> Lee IM, Shiroma EJ, Lobelo F, Puska P, Blair SN, Katzmarzyk PT; Lancet Physical Activity Series Working Group. Effect of physical inactivity on major non-communicable diseases worldwide: an analysis of burden of disease and life expectancy. *Lancet*. 2012 Jul 21;380(9838):219-29.
- <sup>13</sup> Mullally BJ, Greiner BA, Allwright S, Paul G, Perry IJ. The effect of the Irish smoke-free workplace legislation on smoking among bar workers. *Eur J Public Health*. 2009 Apr;19(2):206-11. doi: 10.1093/eurpub/ckp008. PubMed PMID: 19307250; PubMed Central PMCID: PMC2720734.
- <sup>14</sup> ICF International (2016) An assessment of the economic cost of smoking in Ireland.

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- <sup>15</sup> Royal College of Physicians of Ireland. The race we don't want to win- tackling Ireland's obesity epidemic. RCPI Policy Group on Obesity. August 2014.
- <sup>16</sup> Cutumisu N, Traoré I, Paquette MC, Cazale L, Camirand H, Lalonde B, Robitaille E. Association between junk food consumption and fast-food outlet access near school among Quebec secondary-school children: findings from the Quebec Health Survey of High School Students (QSHSS) 2010-11. *Public Health Nutr.* 2016 Nov 24;1-11
- <sup>17</sup> Sadler RC, Clark AF, Wilk P, O'Connor C, Gilliland JA. Using GPS and activity tracking to reveal the influence of adolescents' food environment exposure on junk food purchasing. *Can J Public Health.* 2016 Jun 9;107(Suppl 1):5346. doi: 10.17269/cjph.107.5346.
- <sup>18</sup> Davis, B., & Carpenter, C. (2009). Proximity of Fast-Food Restaurants to Schools and Adolescent Obesity. *American Journal of Public Health*, 99(3), 505–510. <http://doi.org/10.2105/AJPH.2008.137638>
- <sup>19</sup> Alcohol Action Ireland. Alcohol Marketing and Young People's Drinking Behaviour in Ireland. November 2015
- <sup>20</sup> Hahn RA, Middleton JC, Elder R, Brewer R, Fielding J, Naimi TS, et al. Effects of alcohol retail privatization on excessive alcohol consumption and related harms: a community guide systematic review. *Am J Prev Med.* 2012 Apr;42(4):418–27.
- <sup>21</sup> Bryden A, Roberts B, McKee M, Petticrew M. A systematic review of the influence on alcohol use of community level availability and marketing of alcohol. *Health Place.* 2012 Mar;18(2):349–57.
- <sup>22</sup> Popova S, Giesbrecht N, Bekmuradov D, Patra J. Hours and days of sale and density of alcohol outlets: impacts on alcohol consumption and damage: a systematic review. *Alcohol Alcohol.* 2009 Sep-Oct;44(5):500-16
- <sup>23</sup> Livingston M, Chikritzhs T, Room R. Changing the density of alcohol outlets to reduce alcohol-related problems. *Drug Alcohol Rev.* 2007 Sep;26(5):557–66.
- <sup>24</sup> Richardson EA, Hill SE, Mitchell R, Pearce J, Shortt NK. Is local alcohol outlet density related to alcohol related morbidity and mortality in Scottish cities? *Health & Place.* 2015;33:172-180. doi:10.1016/j.healthplace.2015.02.014.
- <sup>25</sup> Foster S, Trapp G, Hooper P, Oddy WH, Wood L, Knuiman M. Liquor landscapes: Does access to alcohol outlets influence alcohol consumption in young adults? *Health Place.* 2017 Feb 28;45:17-23.
- <sup>26</sup> Mongan, D and Long J (2016) HRB Overview Series. Alcohol in Ireland: consumption, harm, cost and policy response. Dublin Health Research Board
- <sup>27</sup> Sherrington et al Effective exercise for prevention of falls. *JAGS* 2008;56:2234
- <sup>28</sup> Gillespie LD, Robertson MC, Gillespie WJ, Sherrington C, Gates S, Clemson LM, Lamb SE. Interventions for preventing falls in older people living in the community. *Cochrane Database Syst Rev.* 2012 Sep 12;(9)
- <sup>29</sup> Balsamo S, Willardson JM, Frederico Sde S, Prestes J, Balsamo DC, Dahan da CN, Dos Santos-Neto L, Nobrega OT. Effectiveness of exercise on cognitive impairment and Alzheimer's disease. *Int J Gen Med.* 2013 May 24;6:387-91

- <sup>30</sup> Raji CA, Merrill DA, Eyre H, Mallam S, Torosyan N, Erickson KI, Lopez OL, Becker JT, Carmichael OT, Gach HM, Thompson PM, Longstreth WT, Kuller LH. Longitudinal Relationships between Caloric Expenditure and Gray Matter in the Cardiovascular Health Study.
- <sup>31</sup> Donoghue O, O'Connell M, Kenny R.A. Walking to Wellbeing: Physical Activity, Social Participation and Psychological Health in Irish adults aged 50 years and older. Dublin: The Irish Longitudinal Study on Ageing (TILDA), 2016
- <sup>32</sup> Department of Health and Department of Transport, Tourism and Sport (2016) Get Ireland Active-National Physical Activity Plan for Ireland.
- <sup>33</sup> Safefood (2012). The cost of overweight and obesity on the island of Ireland. Safefood; 2012.
- <sup>34</sup> Marmot M. The Marmot Review. Fair Society, Healthy Lives. The Strategic Review of Health Inequalities in England Post -2010. 2010
- <sup>35</sup> Department of Health. Tobacco Free Ireland. (2013)
- <sup>36</sup> Department of Health and Department of Transport, Tourism and Sport. Get Ireland Active-National Physical Activity Plan for Ireland. Dublin 2016.
- <sup>37</sup> Department of Health. A Healthy Weight for Ireland – Obesity Policy and Action Plan 2016- 2025. Dublin 2016
- <sup>38</sup> Government of Ireland. Public Health Alcohol Bill (Dec 2015)  
<http://health.gov.ie/blog/publications/public-health-alcohol-bill-2015/>
- <sup>39</sup> Department of Health. Positive Ageing-Starts Now: The National Positive Ageing Strategy. DOH 2013.
- <sup>40</sup> Department of Health. The Irish National Dementia Strategy. DOH 2014
- <sup>41</sup> Royal College of Physicians of Ireland. Physical Activity- A Prescription for a Wonder Drug. RCPI Policy Group on Physical Activity. October 2016.
- <sup>42</sup> Active Travel (Wales) Act 2013. <http://www.legislation.gov.uk/anaw/2013/7/contents>
- <sup>43</sup> Royal College of Physicians of Ireland. Towards a Tobacco-Free Society. RCPI Policy Group on Tobacco. March 2014.
- <sup>44</sup> Royal College of Physicians of Ireland. Reducing Alcohol Health Harm. RCPI Policy Group on Alcohol. April 2013.
- <sup>45</sup> Olshansky SJ, Perry D, Miller RA, Butler RN. Pursuing the longevity dividend: scientific goals for an aging world. *Ann N Y Acad Sci.* 2007 Oct;1114:11-3.Review.