TILDA Conference:
Evidence for Policymakers

tilda
Staidéar Fadaimseartha na hÉireann um Dhul in Aois

The Irish Longitudinal
Study on Ageing

HEALTH SESSION – KEY FINDINGS

- 64 per cent of the population over 50 have hypertension[1]; amongst those with hypertension, 45 per cent are unaware of their condition.
- Respondents facing financial barriers to primary care and medication are less likely to be on antihypertensive treatment compared with those without financial barriers.
- Targets for low-density lipoprotein cholesterol (LDL-C) specified in European guidelines were not reached by over one-third of those with known cardiovascular disease, 47 per cent of those with known diabetes, and 85 per cent of those with a high or very high SCORE risk[2].
- 10 per cent of people over the age of 50 have had an injurious fall in a 12 month period, increasing to 16 per cent in the over 75 age group[3]. Commonly prescribed drugs for blood pressure, angina, depression and eye health are associated with injurious falls[4].
- Overall, 1 in 10 aged over 50 in Ireland has diabetes (9.5 per cent), equivalent to 120,000 people[5]. The majority of those with diabetes are diagnosed, but 1 in 10 is undiagnosed.
- The prevalence of pre-diabetes is 5.5 per cent in the over 50s. These individuals are at increased risk of developing type 2 diabetes.
- There is a strong relationship between a self-reported history of hypertension and high cholesterol, central obesity and low levels of physical activity with diabetes. A self-reported history of hypertension and central obesity also has strong relationships with pre-diabetes.
- Undiagnosed type 2 diabetes was more common outside of Dublin.
- Private health insurance holders were less likely to have undiagnosed diabetes compared to those with neither public nor private medical costs cover.

Conclusions:

A high prevalence of hypertension was identified in the over 50 population, with low levels of awareness, treatment and control. Population and primary care interventions are required to reduce prevalence and to improve awareness, detection and management of hypertension.

Despite strong evidence and clinical guidelines recommending the use of statins for individuals with existing cardiovascular disease, a gap exists between guidelines and practice in community-living adults in Ireland. Secondary prevention needs to be strengthened at the primary care level to reduce the risk of future cardiovascular disease events in this population. Population strategies for primary prevention are required as well as opportunistic risk assessment to identify those at high risk of future cardiovascular disease and to establish best practices in primary prevention.

Falls are estimated to cost Ireland between €400-800 million. It is important for doctors, pharmacists and healthcare professionals to regularly review the appropriateness of medications taken by older patients, particularly those who have recently had a fall. The TILDA approach utilises observational data to inform new educational programmes that train nurses and doctors about the underlying causes of falls, including modifiable risk factors such as medications. Furthermore, this information has been incorporated into European guidelines on how to establish units, train personnel and the necessary equipment for comprehensively assessing falls and cardiovascular risk[6].

The prevalence of diabetes in older Irish adults is similar to other European countries. However, a significant proportion of those with the condition remain undiagnosed and untreated. Targeted screening of at-risk groups may help to reduce the proportion of undiagnosed cases and ease future disease burden.

TRANSPORT SESSION – KEY FINDINGS

- Based on their usual walking speeds, 31 per cent of Irish adults aged 65-74 and 61 per cent of adults 75 and older do not have enough time to cross the road in the time provided by the pedestrian light signals[7].
- 77 per cent of Irish adults over the age of 65 will not have enough time to cross the road if they walk and carry out a cognitive-based task at the same time.

Conclusions:

Guidelines for pedestrian light settings are not compatible with older Irish adults' walking abilities. Not being able to cross the road comfortably can impact on everyday experiences, leading to reductions in social engagement, physical activity, functional independence, perception of safety, and quality of life.

Local councils should ensure that the pedestrian light settings meet the current recommendations and that consistent messaging about the duration of the green and amber pedestrian lights are provided, in theory and practice, to promote the desired pedestrian behaviour.

It is possible to increase the proportion of older people who would have enough time to cross the road by changing the duration of the pedestrian light signals, however, the impact on traffic flow, driver behaviours, and the needs of all road users should be considered before introducing a significant change.

Where possible, changes to the pedestrian light settings should rely on evidence-based data. TILDA has published normative walking speed data for all adults aged 50 years and over and, therefore, is in a unique position to contribute to this evidence-base.

An education and awareness campaign targeted to pedestrians is required to highlight what the pedestrian light signals mean, when a pedestrian should cross, and the importance of avoiding distractions when crossing the road.

ECONOMIC SESSION – KEY FINDINGS

- Involuntary, or forced, retirement has a negative effect on mental health, but there is no relationship between retirement and mental health for those who retire voluntarily[8].

- Additionally, retirement due to ill-health is negatively associated with mental health.

Conclusions:
As policy-makers increasingly look to extend working lives in an effort to lessen the economic challenges of population ageing, it is important to understand more fully the impact of retirement on health.

These findings suggest that when retirement is involuntary or due to ill-health, any benefit that might arise from reduced work stress is outweighed by factors such as a loss of social connectedness or other work-related positives.

For people who retire voluntarily, the absence of a mental health gain suggests that this cannot be used in any effort to entice people to delay retirement; instead, more standard economic incentives may be required such as actuarially-adjusted pension entitlements.

SMART AGEING INNOVATIONS – KEY FINDINGS

- The TILDA Biobank includes 10,000 blood samples and 4,000 hair samples. Total cholesterol and lipid profile are determined from venous samples collected during the health assessment. Venous blood is stored for genetic analyses (DNA, RNA) and future analytics, while the hair samples are stored for hormone analysis.

- In collaboration with Mercer's Institute for Successful Ageing and the Centre for Advanced Medical Imaging at St. James's Hospital, TILDA has Magnetic Resonance Imaging (MRI) for 600 TILDA participants. These images are allowing researchers to investigate how the brain's structure and connectivity change with ageing and the functional impacts based on these changes.

- 2,000 TILDA participants were fitted with wrist-worn activity monitors, monitoring their movement over seven days. This data is allowing researchers to investigate detailed measures of physical activity and health outcomes.

- TILDA is utilising Near-Infrared Spectroscopy (NIRS) to measure blood flow through the brain, along with measurements of the central cardiovascular system, to track how changes in heart rate and blood pressure during standing are reflected in the brain.

- By utilising numerous technologies – joint electrocardiogram, blood pressure, heart rate and brain blood flow – TILDA is providing a "big picture" of the circulatory system and its response to stressors.

Conclusions:
TILDA is advancing the research infrastructure in ageing through innovations in health assessments, its growing bio bank of blood and hair samples, and new methods for collecting and analysing data. TILDA is championing mobile systems to replicate TILDA data collection internationally, thereby informing research in China, Brazil, Costa Rica, India, and South Korea, in addition to playing a key role in the National Institute on Aging Strategic Group for harmonisation of global longitudinal studies. TILDA health assessments and associated experimental sub-studies generate vast libraries of health data. TILDA has developed data processing algorithms and mathematical modelling techniques which can be further exploited by research and industry partners.

New models of the cardiovascular system are emerging from TILDA which have been translated into research laboratories and clinical settings. NIRS technology and modelling tools are utilised in the Falls and Blackout Unit at St. James's Hospital to explain the epidemiology of faints and falls. Thus, TILDA is impacting on healthcare and technologies that support successful ageing.

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