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Changes in Physical and Behavioural Health in Older Irish Adults

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Changes in Physical and Behavioural Health in Older Irish Adults

Key Findings

- The proportion of the older population who report that their health is 'excellent' or 'very good' has increased from 41% in wave 1 to 44% in wave 2.
- Hypertension and diabetes are the most prevalent cardiovascular conditions in older Irish adults, affecting 37% and 9% of older Irish adults respectively. The prevalence of most cardiovascular conditions has remained stable since wave 1 except for angina, which has decreased, and atrial fibrillation, which has increased.
- Arthritis now affects 51% of those aged 75 and over, while the two-year incidence of arthritis among this age group is 10%.
- Arthritis, osteoporosis and cataracts have the highest two-year incidence rates (i.e., new cases among those previously undiagnosed) of non-cardiovascular chronic conditions, with rates of 7.6%, 5.6% and 5.7% respectively.
- Approximately 19% of men, 25% of women and 30% of individuals aged 75 and over have fallen in the last year. Almost 10% of the over 50s population have had an injurious fall (i.e., requiring medical treatment) in the last year.
- 16% of smokers at wave 1 had quit by wave 2. A notable decrease in smoking occurs after the age of 65 years.
- The overall prevalence of problematic alcohol use has increased between wave 1 and wave 2 and is significantly higher in men (21.7%) than in women (11%). There is a drop in problematic alcohol use after the age of 65 years.
- The proportion of adults reporting low levels of physical activity increases with age, with 51.6% of over 75s reporting low levels of physical activity at wave 2.

3.1 Introduction

The importance of the opportunities and challenges associated with ageing (1) have been acknowledged by the objectives set forth in Ireland's recent health reform policy document,

Healthy Ireland – A Framework for Improved Health and Well-being 2013-2025 (2) and more recently in the National Positive Ageing Strategy(3). Pertinent goals set out in these documents include: to increase the proportion of people who are healthy at all stages of life; to reduce health inequalities; to support people as they age to maintain, improve or manage their physical, mental health and well-being; and to use an evidence-based approach to better inform policy responses to population ageing.

By design, the data collected in TILDA can inform and help achieve these objectives. TILDA collates information on mortality rates, health conditions, perceptions, behaviours and health inequalities that have important public health significance (4). In the summary report on wave 1 of TILDA, Cronin et al. (5) reported the high prevalence of cardiovascular and non-cardiovascular disorders in the older Irish population alongside behavioural health patterns.

As a natural extension to this earlier work, this chapter presents data on the changes in physical and behavioural health which have occurred in the period between wave 1 and wave 2. We report on changes in self-rated health followed by prevalence and incidence data on the burden of chronic conditions (cardiovascular and non-cardiovascular) and their risk factors. Finally, we present changes in behavioural health of the over 50s population and update current information on the prevalence of falls in Ireland - one of the giants of geriatric medicine.

3.2 Key methodological considerations

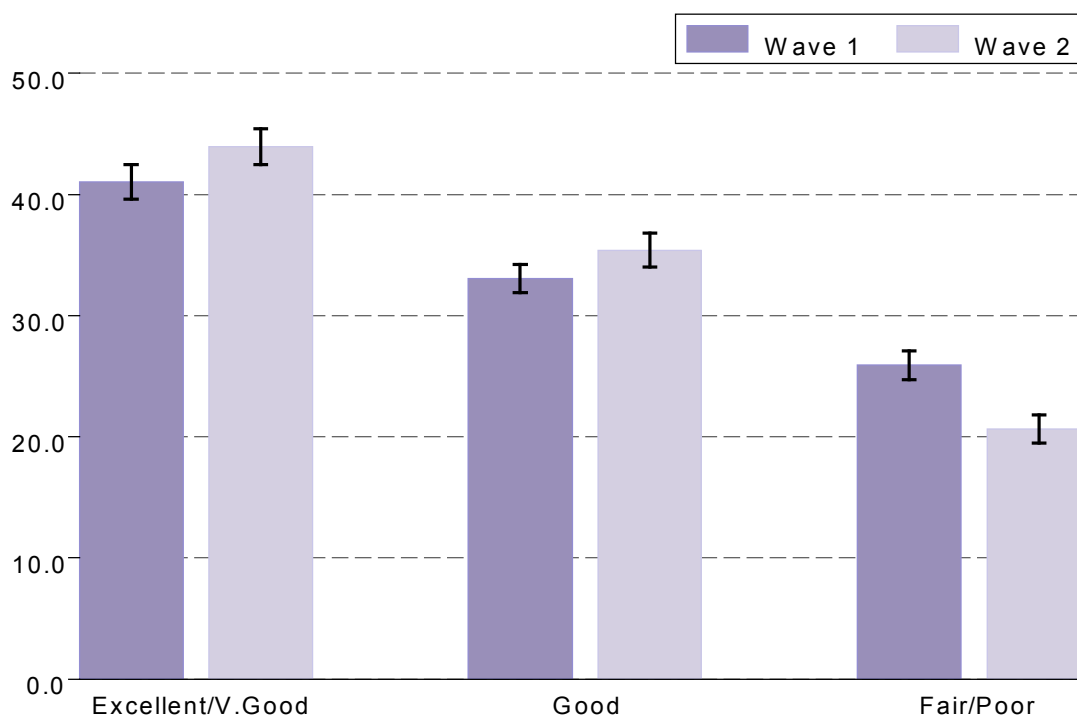
To facilitate an accurate comparison of wave 1 and wave 2 data only adults aged 52 and over are included in the sample for the current analysis. Analysis of incidence is restricted to those participants who took part in both wave 1 and wave 2 only. Two-year incidence rates are calculated as the number of individuals who newly report a health condition at wave 2 expressed as a proportion of those individuals who were free of this condition in wave 1 (paired sample). Incidence rates are reweighted using appropriate attrition weights. It is likely that using a paired sample will introduce a survivor bias; however attrition weights have been introduced to correct for this (see Chapter 7 for further details).

Both prevalence and incidence data are reported stratified by age and sex. Age at wave 1 is used when reporting incidence rates and variables of change between wave 1 and wave 2, while age at wave 1 and age at wave 2 are used for prevalence analyses based on wave 1 or wave 2 data respectively.

3.3 Changes in self-rated health

Self-rated health is a well-known marker of an individual's health status and is a strong predictor of life expectancy and morbidity levels (6). Self-rated health was measured by a single question whereby participants were asked to rate their health using one of five categories ranging from excellent to poor.

Figure 3.1: Distribution of self-rated health



In wave 2, 44% of older adults reported that their health was excellent or very good and 21% reported that their health was fair or poor. These figures are broadly comparable to those reported for the full adult (i.e., 18+ years) Irish population, albeit using slightly different response categories (very good, good, fair, bad and very bad), and using data for 2010. Using the same data, it has been found that estimates of self-rated health in Ireland are consistently above those reported in other EU-27 countries (7). Our results suggest a more optimistic perception of health currently, since compared to 2010 the number of people reporting excellent or very good health has increased by 3 percentage points and the proportion reporting fair or poor health has reduced by 5 percentage points (see Figure 3.1).

Figure 3.2 shows transitions in self-rated health status over time. A clear pattern exists

across all age groups whereby the majority of adults who reported excellent or very good health in wave 1 continue to report high levels in wave 2. Reporting of fair or poor health is less consistent across waves; approximately 45% of adults who reported fair or poor health in wave 1 transition to excellent, very good or good self-rated health by wave 2. This pattern is broadly similar across all age groups; however a greater percentage of individuals in the oldest age group transition between self-rated health categories between wave 1 and wave 2.

Figure 3.2: Changes in self-rated health between wave 1 and wave 2



Note. N = 6915; Missing obs = 1; Error bars correspond to 95% confidence intervals

3.4 Prevalence and incidence of cardiovascular conditions

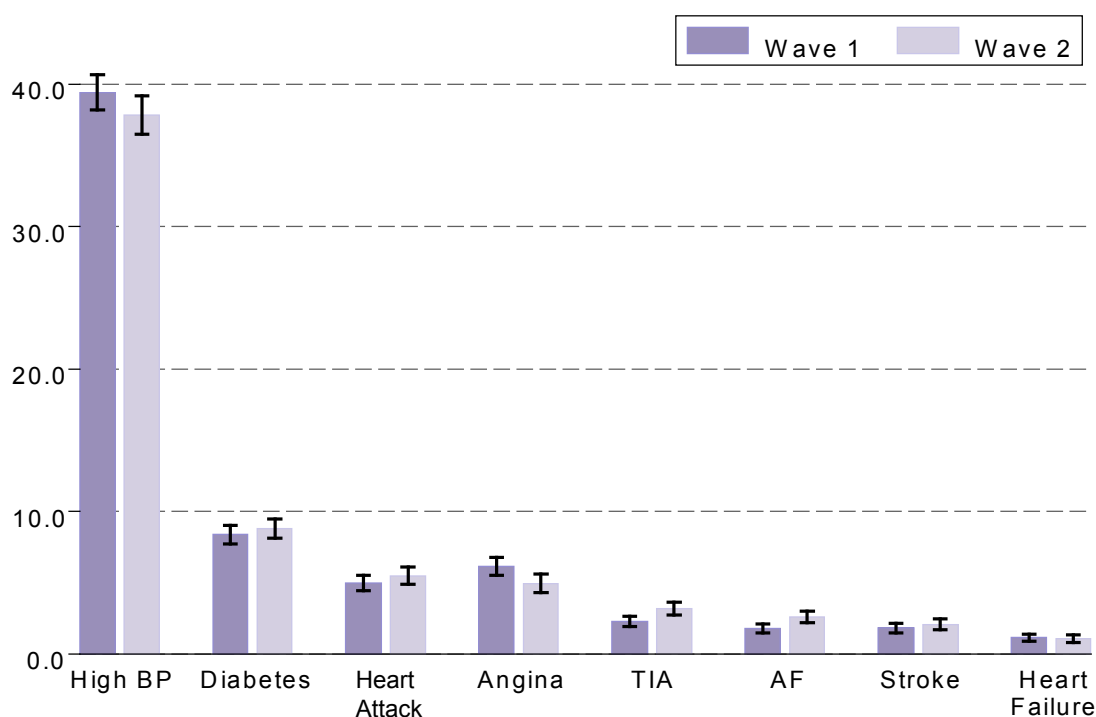
Cardiovascular disease (CVD) remains the leading cause of death in Ireland despite the significant (67%) drop of age-standardised death rates over the last 30 years (8). This downward trend in CVD mortality has been attributed to a decrease in the prevalence of important risk factors for CVD and improvement in treatments available (9). With this substantial decrease in mortality from CVD since the 1980s some people are now living longer with a higher burden of morbidity. This was evident from the data collected at wave 1 of the study (5) and has major implications for planning and delivery of effective health services.

Here we provide an update on the prevalence and incidence of key cardiovascular conditions from wave 1. As a health assessment was not carried out in wave 2, the following analyses are based on questions where the participants were asked to self-report a doctor's diagnosis of each of the following conditions: hypertension (High BP), diabetes mellitus, myocardial infarction (heart attack), angina, transient ischemic attack (TIA), atrial fibrillation (AF), stroke, heart failure (10, 11).

3.4.1 Changes in prevalence of cardiovascular conditions

Figure 3.3 shows changes in prevalence of cardiovascular conditions between wave 1 and wave 2. Hypertension (37.2%) and diabetes (8.6%) are currently the most prevalent cardiovascular conditions in older Irish adults. The prevalence of most conditions has remained stable since wave 1 except for angina, which has decreased, and atrial fibrillation, which has increased.

Figure 3.3: Prevalence of cardiovascular conditions



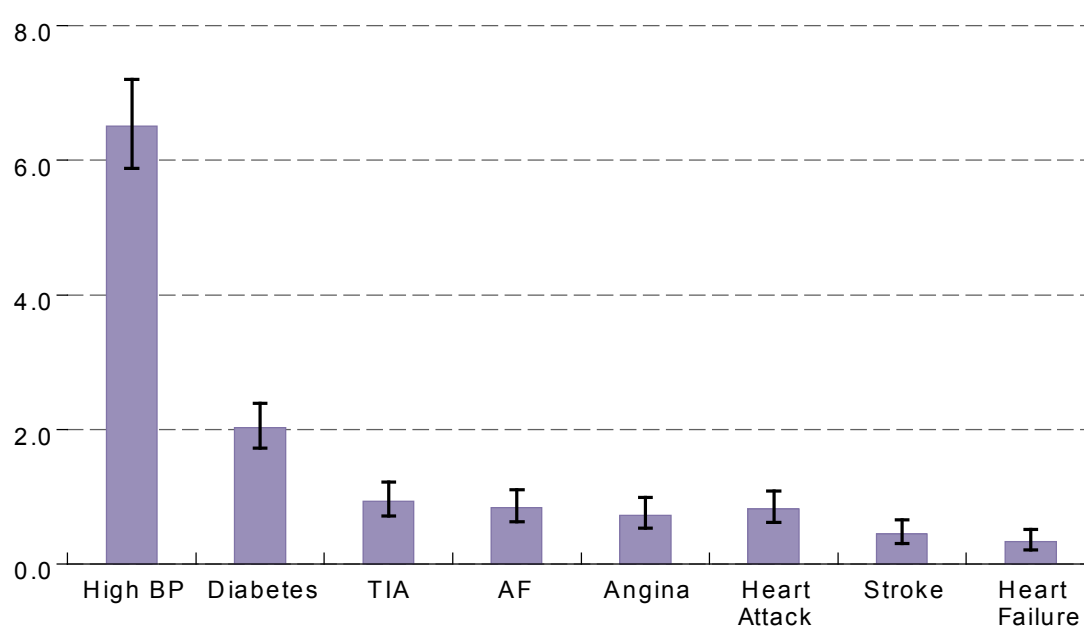
The prevalence of all cardiovascular conditions increases with age (see Appendix Table 3.A1a). For example the prevalence of hypertension is 29.2% in the youngest age group (52-64) rising to 50.3% in the oldest age group (≥ 75 years). Similarly, the prevalence of atrial fibrillation is 1.3% in the youngest age group and increases to 4.3% in the oldest age group. In wave 1 men had a higher prevalence of diabetes, heart attacks, angina, AF, and

heart failure than women. These differences between men and women remain in wave 2, however it has decreased notably for angina (see Appendix Table 3.A2).

3.4.2 Two-year incidence of cardiovascular conditions

Figure 3.4 presents the two-year incidence of cardiovascular conditions. Highest incidence rates are observed for hypertension (6.5%) and diabetes (2%). The incidence of other established cardiovascular conditions is less than 1% with the incidence of AF comparable to that of heart attacks and TIAs.

Figure 3.4: Two-year incidence of cardiovascular conditions



Note. N = 6916; Missing obs = 0; Error bars correspond to 95% confidence intervals

Incidence rates of cardiovascular conditions by age group and sex are shown in Appendix Table 3.A1b. Significant age gradients are observed for TIA, AF and stroke. For example AF is associated with a 0.4% incidence rate for adults aged 50-64 compared to 1.5% for adults aged 75 and over. There are no significant differences between men and women in incidence of any of the cardiovascular conditions.

3.5 Prevalence and incidence of chronic conditions (non-cardiovascular)

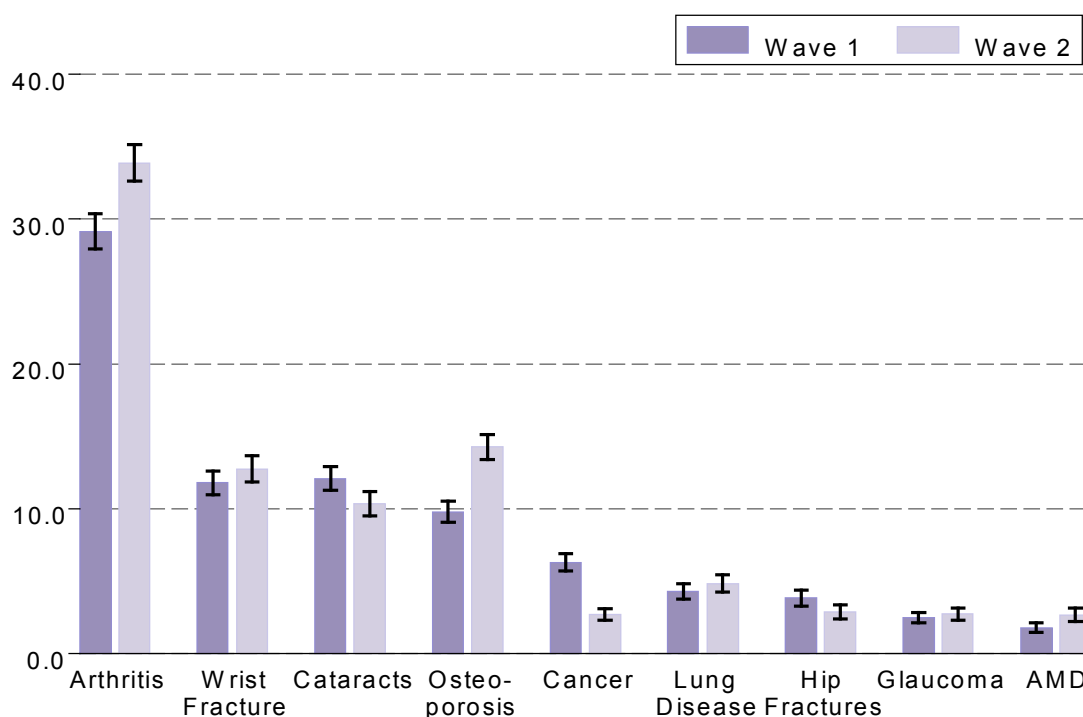
In this section we report on the prevalence and incidence of (non-cardiovascular) chronic

conditions such as arthritis, osteoporosis, fractures (hip and wrist), cancer, eye conditions and chronic lung disease.

3.5.1 Changes in prevalence of chronic conditions (non-cardiovascular)

Figure 3.5 shows changes in prevalence of chronic conditions between wave 1 and wave 2. Arthritis (33.9%) and osteoporosis (14.3%) are now the most prevalent chronic conditions among the over 50s population. The prevalence of arthritis increased by 4.7 percentage points between waves, while the prevalence of osteoporosis increased by 4.5 percentage points. The prevalence of all other conditions has remained largely unchanged, with the exception of cancer, which has decreased by 3.6 percentage points, and cataracts, which has decreased by 1.8 percentage points.

Figure 3.5: Prevalence of chronic conditions (non-cardiovascular)



AMD = age-related macular degeneration

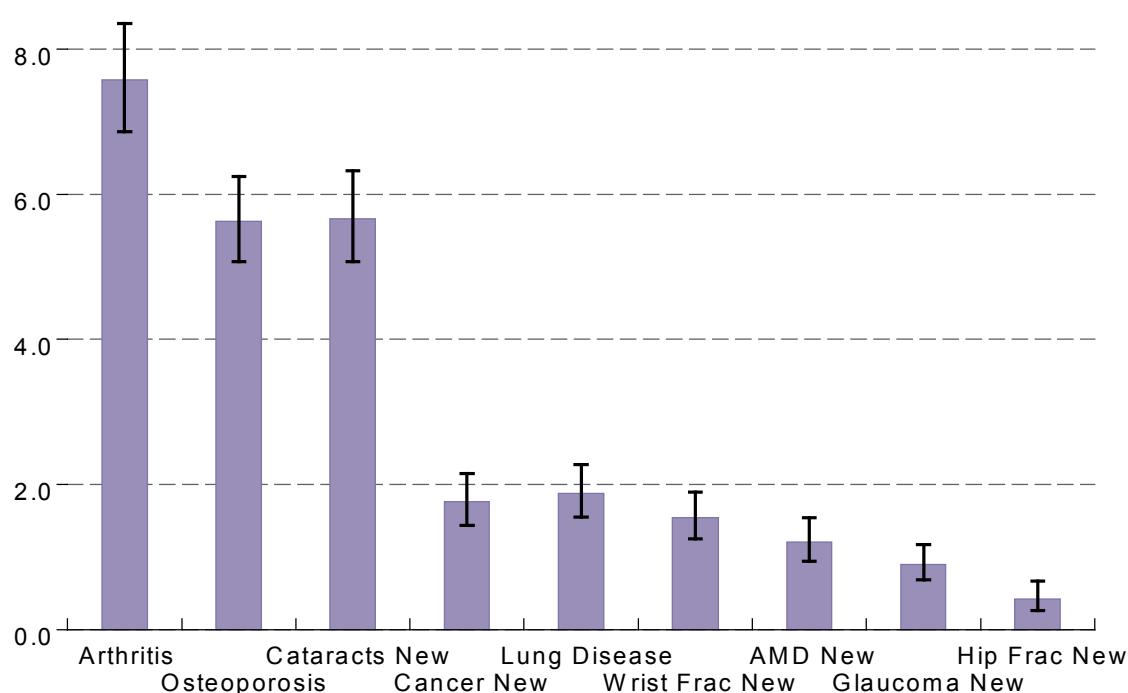
The prevalence of most chronic conditions increases with age (see Appendix Table 3.A3a). For example, the prevalence of arthritis at wave 2 is 23.6% in the youngest age group (52-64) rising to 51.7% in the oldest age group (≥ 75). Significant age gradients are also evident for each of the eye conditions considered. For example the prevalence of cataracts increases by almost eight-fold from 3.1% in the youngest age category (52-64) to 24.9% in the 75 and over group.

Appendix Table 3.A3a also shows the prevalence of chronic conditions by sex. Women demonstrate a higher prevalence of osteoporosis, arthritis, cataracts and AMD while men report a higher prevalence of cancer. Osteoporosis now affects 24.1% of women compared to 3.6% of men while arthritis affects 40.7% of women compared to 26.5% of men.

3.5.2 Two-year incidence of chronic conditions (non-cardiovascular)

Figure 3.6 presents the two-year incidence of chronic conditions. Incidence rates are highest for arthritis (7.6%), osteoporosis (5.6%) and cataracts (5.7%). All other chronic conditions have an incidence rate of below 2%.

Figure 3.6: Two-year incidence of chronic conditions (non-cardiovascular)



Note. N = 6916; Missing obs = 0; Error bars correspond to 95% confidence intervals

AMD = Age-related macular degeneration

The incidence of arthritis, cataracts, age related macular degeneration (AMD) and cancer increase with age (see Appendix Table 3.A3b). For example the incidence of arthritis rises from 6.2% in the youngest age category (50-64) to 10.2% in adults aged 75 and over. Similarly the incidence of cataracts is 12.2% for individuals aged 75 years and older, compared with just 1.8% in adults aged 50-64 years.

The incidence of chronic conditions by sex is also shown in Appendix Table 3.A3b. Women report a significantly higher incidence of cataracts, wrist fractures and osteoporosis

compared to men. For example the incidence of osteoporosis is almost four times higher in women (8.7%) than men (2.3%).

3.6 Prevalence and incidence of falls

Falls are commonly associated with ageing, with an estimated one in three older adults experiencing a fall each year (12). Falls account for a high proportion of national health expenditure and in Ireland the total annual costs of falls has been estimated at €400 million (13).

Participants were asked to report (a) the number of falls they had in the last year and (b) whether any of these falls caused an injury which required medical treatment (classified as an injurious fall). In addition, individuals who reported one fall were categorised as a faller while individuals who reported two or more falls were categorised as a recurrent faller.

3.6.1 Changes in prevalence of falls

The prevalence of falls has increased slightly between wave 1 and wave 2 (see Figure 3.7). For example 22.2% of adults aged 52 and over report a fall at wave 2 compared to 19.6% at wave 1. The prevalence of recurrent falls is almost consistent across waves but the prevalence of injurious falls has risen from 7.1% at wave 1 to 9.9% at wave 2.

Figure 3.8 shows the prevalence of falls, recurrent falls and injurious falls at wave 2 by age group. The prevalence of all types of falls increases significantly with age. For example the prevalence of falls rises from almost 18.4% in the youngest age group (52-64 years) to 29.8% in adults aged 75 and over. Similarly the prevalence of injurious falls rises from 7.3% in adults aged 52-64 years to 15.8% in adults aged 75 and over.

Differences between men and women are evident in falls prevalence (see Appendix Table 3.A4a) with a higher proportion of women having had a fall than men (25.3% vs 18.8%). A higher proportion of women have had an injurious fall (12.7%) compared to men (6.9%). Furthermore, while the prevalence of falls, recurrent falls or injurious falls has not increased much between waves for men, there is an increase in the percentage of women reporting falls and injurious falls at wave 2 (see Appendix Table 3.A4b).

Figure 3.7: Prevalence of falls, recurrent falls and injurious falls

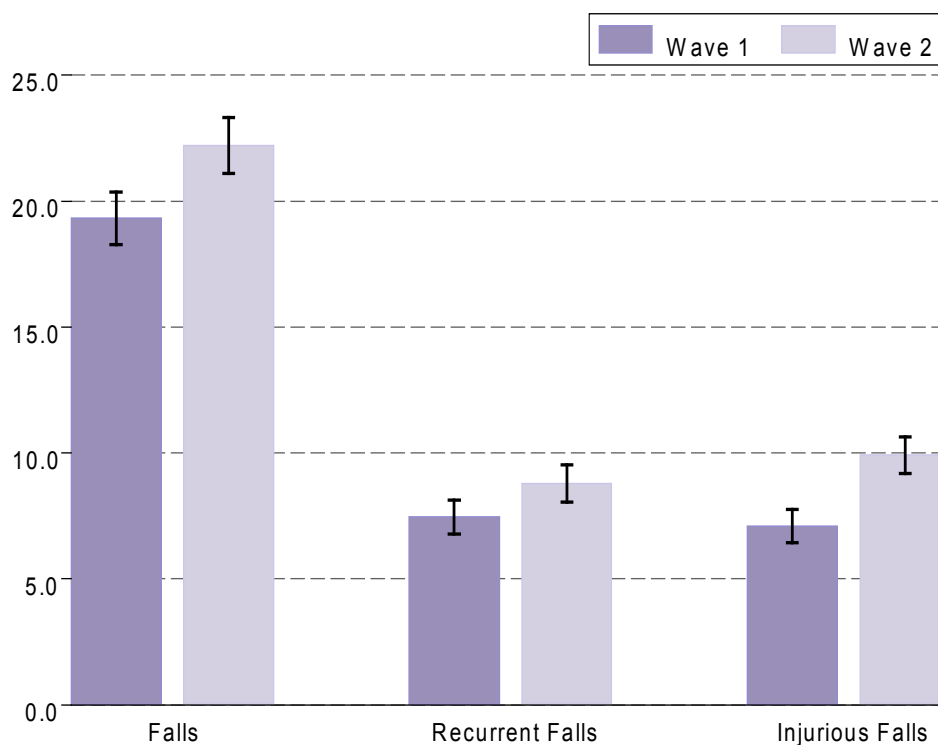
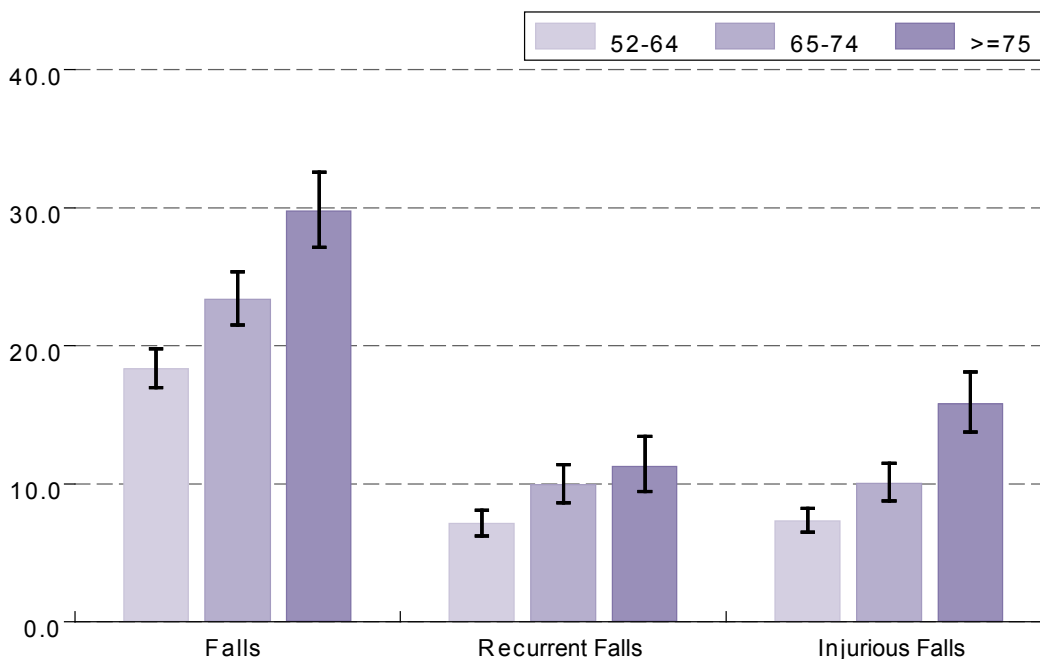


Figure 3.8: Prevalence of falls, recurrent falls and injurious falls at wave 2 by age



Note. N = 6909; Missing obs = 7; Error bars correspond to 95% confidence intervals

3.6.2 Changes in falls prevalence

Table 3.1 summarises changes in falls prevalence between wave 1 and wave 2. Of those who had not previously reported a fall, 12% report a single fall by wave 2. A further 6% report recurrent falls by wave 2. Of those who reported a single fall at wave 1, 24% had another fall by wave 2 and 12% progressed to having recurrent falls. Finally, 37% of adults with recurrent falls at wave 1 continued to experience recurrent falls by wave 2, while 48% report no falls between waves.

Table 3.1: Changes in falls prevalence between wave 1 and wave 2

	No Falls W2		One Fall W2		Recurrent Falls W2 (≥ 2 falls)		Total	Number in sample
	%	(95% CI)	%	(95% CI)	%	(95% CI)		
No Falls W1	82	(81-84)	12	(11-13)	6	(5-6)	100	5567
One Fall W1	64	(61-68)	24	(20-26)	12	(10-14)	100	846
Recurrent Falls W1 (≥ 2 falls)	48	(45-54)	13	(10-16)	37	(33-43)	100	474
Total	78	(77-79)	13	(12-14)	9	(8-9)	100	6887

Note. CI = confidence interval; Missing observations = 0.25%

Note the total prevalence of fallers is calculated by summing the data presented in column 2 and column 3.

3.7 Changes in Behavioural Health

Behavioural health refers to modifiable lifestyle factors that can positively or negatively affect health. Three major lifestyle factors which are captured in TILDA are smoking, alcohol use and physical activity.

3.7.1 Smoking

It is well established that smoking negatively affects health and is a significant risk factor for a range of disorders including cardiovascular conditions, lung cancer and other respiratory disorders (14, 15).

In TILDA participants were asked to self-report their smoking status (never, past or current). Overall, the percentage of the population who are current smokers has decreased since wave 1 (see Figure 3.9). The prevalence of smoking at wave 2 is 16.5%, down from

18.3% at wave 1.

Appendix Table 3.A5 shows smoking rates by age group. The prevalence of smoking in wave 2 decreases from 21.2% in the youngest age group (52-64 years) to 9.3% in the older adults aged 75 and over, a pattern similar to that noted in wave 1. Interestingly, as participants age a large drop in the prevalence of smoking is evident around the age of retirement i.e. 65 – 69 years at wave 2 (see Appendix Figure 3.B1a). No differences between men and women are noted in smoking behaviours (see Appendix Table 3.A6). Table 3.2 further details the transitions in smoking behaviours between wave 1 and wave 2. Encouragingly this table indicates that 16% of adults who smoked at wave 1 report that they have given up smoking in the past two years. Smoking transitions do not differ by age, or between men and women.

Figure 3.9: Prevalence of negative health behaviours

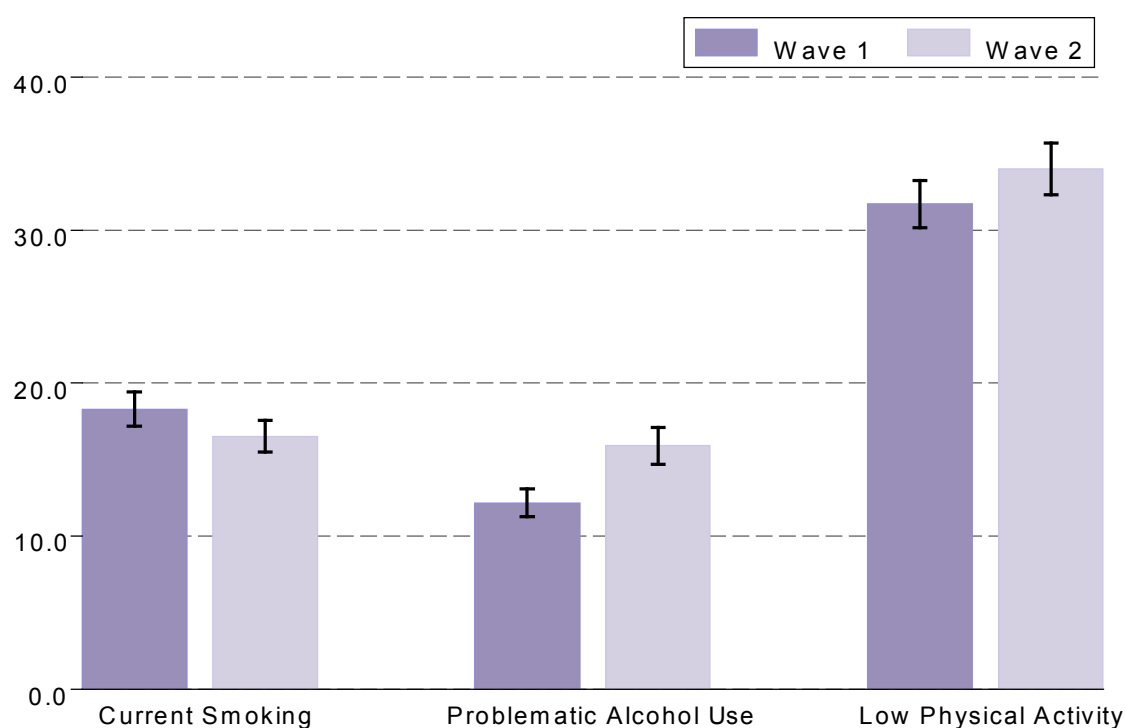


Table 3.2: Changes in smoking behaviour between wave 1 and wave 2

	Never W2		Past W2		Current W2		Total	Number in sample
	%	(95% CI)	%	(95% CI)	%	(95% CI)		
Never W1	99	(99-100)	0	-	1	(0-1)	100	3077
Past W1	-	-	98	(97-98)	2	(2-3)	100	2653
Current W1	-	-	16	(14-18)	84	(82-86)	100	1185
Total	43	(42-45)	40	(39-42)	17	(16-18)	100	6915

Note. CI = confidence interval; Missing observations = 0.00%

3.7.2 Alcohol

In comparison to other European countries, Ireland has a high rate of harmful drinking habits (16). To examine harmful alcohol use, participant drinking habits were assessed using the CAGE (Cut-Annoyed-Guilty-Eye) questionnaire, a standard screening tool for problematic drinking patterns. A CAGE score ≥ 2 indicates problematic alcohol use (See Appendix 3C).

The proportion of older Irish adults with problematic alcohol use has increased from 12.2% in wave 1 to 15.9% at wave 2 (see Figure 3.9). At wave 2, the prevalence of problematic alcohol use decreases with age from 19.9% in those aged 52-64 years to 8.0% in those aged over 75 (see Appendix Table 3.A5). Similar to what is observed among smokers, there is a distinct drop in the prevalence of problematic alcohol use around the age of retirement (see Appendix Figure 3.B1b). A difference between men and women is also evident; nearly twice as many men report problematic alcohol use compared to women (21.7% vs 11.0%; see Appendix Table 3.A6).

Table 3.3 shows the transitions in problematic alcohol use between wave 1 and wave 2. 7% of those who did not have a drinking problem at wave 1 developed problematic drinking habits by wave 2, while 31% of adults improved their drinking habits. No age gradient was observed for transitions in problematic alcohol use between waves (see Appendix Table 3.A7a). However, a higher proportion of men (10%) transition to the problematic alcohol use category compared to women (5%) but a similar proportion of men and women report a reduction in harmful drinking behaviours between waves (see Appendix Table 3.A7b).

Table 3.3: Changes in problematic alcohol use between wave 1 and wave 2

	CAGE<2 W2		CAGE≥2 W2		Total	Number in sample
	%	(95% CI)	%	(95% CI)		
Total						
CAGE<2 W1	93	(92-94)	7	(6-8)	100	3660
CAGE≥2 W1	31	(27-35)	69	(66-74)	100	617
Total	84	(82-85)	16	(15-17)	100	4277

3.7.3 Physical Activity

Physical activity is critically important for healthy ageing (17). Low levels of physical activity are associated with increased mortality, reduced quality of life and poorer self-rated health (17). Moderate to high levels of physical activity are associated with cardiovascular fitness which in turn is associated with better cardiovascular outcomes, flexibility and muscle strength (18). In TILDA, physical activity is measured using the International Physical Activity Questionnaire (IPAQ) which defines cut-offs for low, medium and high activity levels (4).

Overall, physical activity levels have remained similar at wave 2 with 34% reporting low physical activity at wave 2 compared to 31.7% at wave 1 (see Figure 3.9). The profile of self-reported physical activity is quite different across both age and sex. For example, an average of 50% of adults aged 75 and over consistently report low physical activity across waves compared to approximately 27% of adults aged 52-64 years (see Appendix Table 3.A5). At both waves, a significantly higher proportion of women report lower activity levels than men (see Appendix Table 3.A6).

Table 3.4 shows transitions in activity levels (low, medium and high) between wave 1 and wave 2. 53% of older adults maintained high levels of physical activity across waves, with 17% of adults who reported high activity levels at wave 1 transitioning to low activity levels by wave 2. Of those who reported low activity levels at wave 1, 25% transitioned to medium activity levels by wave 2 and a further 17% transitioned to high activity levels. An age gradient is evident in transitioning to low physical activity from high activity levels; 29% of those in the 75 and over age group transition to low activity between waves, compared to only 14% of those aged 50-64 (see Appendix Table 3.A8). A higher proportion of women transition to low levels of physical activity than men; 31% of women previously reporting

medium activity levels and 23% reporting high activity at wave 1 report low activity levels at wave 2, compared to 25% and 14% of men respectively (see Appendix Table 3.A9).

Table 3.4: Changes in physical activity levels between wave 1 and wave 2

	W2 Low activity		W2 Medium activity		W2 High activity		Total	Number in sample
	%	(95% CI)	%	(95% CI)	%	(95% CI)		
W1 Low activity	38	(55-60)	25	(23-27)	17	(15-20)	100	2131
W1 Medium activity	28	(26-31)	45	(43-48)	26	(24-29)	100	2382
W1 High activity	17	(15-19)	30	(28-32)	53	(50-56)	100	2378
Total	34	(32-36)	34	(32-35)	32	(31-34)	100	6891

3.8 Conclusion

This chapter has provided an overview of the physical and behavioural health of the over 50s in Ireland, focussing in particular on how health and health behaviours have changed over the period between wave 1 and wave 2 of the TILDA study. This information is vital for ensuring policy responses to population ageing are evidence-based, as outlined in recent health policy documents such as Healthy Ireland – A Framework for Improved Health and Well-Being 2013-2025 (2).

Although the TILDA participants are now two years older, it is encouraging to note an increase in the proportion of older adults who report that their health is ‘excellent’ or ‘very good’. Hypertension and diabetes continue to be the most prevalent cardiovascular conditions among older Irish adults while arthritis and osteoporosis are the most prevalent non-cardiovascular chronic conditions. The prevalence of most conditions has remained largely stable since wave 1. However, some changes are observed most notably for angina, which has decreased and arthritis and osteoporosis, which have increased.

Falls continue to be a major problem for older adults and it is worrying to note an increase in the proportion of the older population who have experienced a fall that requires medical attention between wave 1 and wave 2. On a positive note, there is some evidence that behavioural change is possible at any age; for example, 16 per cent of smokers at wave 1 had quit by wave 2. Retirement age appears to be a key time for changes in smoking

and problematic drinking behaviours among the older population in Ireland, and this is supported by international evidence (19). This suggests that intervention strategies may need to be structured to reflect this opportunity.

Finally, it is important to note that all of the data presented in this chapter is based on self-reported information. Findings from wave 1 and elsewhere indicate that measures of disease based on self-report tend to underestimate the true prevalence of a condition (5, 20). An objective assessment of physical health, based on the same health assessment procedures as wave 1, is planned for the next wave of the study in 2014. The availability of objective health data from two time points will provide more reliable estimates of the true prevalence and incidence of disease over time and inform effective health planning for older adults.

References

1. CSO. This is Ireland - Part 1. Highlights from Census 2011. Dublin, Ireland: Stationary Office; 2012.
2. DOHC. Healthy Ireland – A Framework for Improved Health and Well-being 2013-2025. Government Publications, Dublin, Ireland; 2013.
3. DOHC. The National Positive Ageing Strategy. Government Publications, Dublin, Ireland; 2011.
4. Kenny R.A., Whelan B.J., al CHe. The Design of the Irish Longitudinal Study on Ageing (TILDA). ; 2010.
5. Cronin H., O Regan C., RA. K. Physical and Behavioural Health of Older Irish Adults. In: Barret A., Savva G., Timonen V., R.A. K, editors. Fifty Plus in Ireland 2011: First results from the Irish Longitudinal Study on Ageing (TILDA). Dublin, Ireland.2011.
6. Idler EL, Angel RJ. Self-rated health and mortality in the NHANES-I Epidemiologic Follow-up Study. American journal of public health. 1990;80(4):446-52.
7. Children DoHa. Health in Ireland: Key Trends. In: Children DoHa, editor. Dublin, Ireland: Government Publications; 2012.
8. DOHC. National Cardiovascular Health Policy 2010 -2019. Government Publications, Dublin, Ireland; 2010.
9. Kabir Z, Perry IJ, Critchley J, O'Flaherty M, Capewell S, Bennett K. Modelling Coronary Heart Disease Mortality declines in the Republic of Ireland, 1985-2006. International journal of cardiology. 2013;168(3):2462-7.

10. Wolf PA, Abbott RD, Kannel WB. Atrial fibrillation as an independent risk factor for stroke: the Framingham Study. *Stroke*. 1991;22(8):983-8.
11. Duron E, Hanon O. [Atrial fibrillation and cognitive function]. *Psychologie & neuropsychiatrie du vieillissement*. 2010;8(3):209-14.
12. Society AG, Society G, Of AA, On Falls Prevention OSP. Guideline for the Prevention of Falls in Older Persons. *Journal of the American Geriatrics Society*. 2001;49(5):664-72.
13. Gannon B, O'Shea E, Hudson E. Economic consequences of falls and fractures among older people. *Irish medical journal*. 2008;101(6):170-3.
14. Sees KL. Cigarette smoking, nicotine dependence, and treatment. *West J Med*. 1990;152(5):578-84.
15. Westmaas JL, Brandon TH. Reducing risk in smokers. *Curr Opin Pulm Med*. 2004;10(4):284-8.
16. Ramstedt M, Hope A. The Irish drinking culture: drinking and drinking-related harm, a European comparison. 2004.
17. Caspersen CJ, Pereira MA, Curran KM. Changes in physical activity patterns in the United States, by sex and cross-sectional age. *Med Sci Sports Exerc*. 2000;32(9):1601-9.
18. Warburton DE, Nicol CW, Bredin SS. Health benefits of physical activity: the evidence. *CMAJ*. 2006;174(6):801-9.
19. Lang IA, Rice NE, Wallace RB, Guralnik JM, Melzer D. Smoking cessation and transition into retirement: analyses from the English Longitudinal Study of Ageing. *Age and Ageing*. 2007 November 1, 2007;36(6):638-43.
20. Frewen J, Finucane C, Cronin H, Rice C, Kearney PM, Harbison J, et al. Factors that influence awareness and treatment of atrial fibrillation in older adults. *QJM : monthly journal of the Association of Physicians*. 2013;106(5):415-24.

Appendix 3A: Tables on Changes in Physical and Behavioural Health in Older Irish Adults

Table 3.A1a: Prevalence of cardiovascular conditions at wave 2 by age

	High BP W2 % (95% CI)	Diabetes W2 % (95% CI)	Angina W2 % (95% CI)	Heart Attack W2 % (95% CI)	TIA W2 % (95% CI)	AF W2 % (95% CI)	Stroke W2 % (95% CI)	Heart Failure W2 % (95% CI)
Male								
52-64	30.0 (27.7-32.5)	7.3 (6.2-8.7)	2.3 (1.7-3.2)	3.8 (3.0-4.9)	0.9 (0.5-1.5)	1.7 (1.2-2.5)	0.7 (0.4-1.3)	1.1 (0.7-1.8)
65-74	44.1 (40.8-47.5)	14.5 (12.4-17.0)	6.5 (5.0-8.4)	10.8 (8.9-13.0)	4.9 (3.6-6.5)	5.3 (4.0-6.9)	3.0 (2.1-4.3)	1.6 (0.9-2.8)
>=75	43.5 (39.4-47.7)	15.4 (12.5-18.9)	11.3 (8.8-14.3)	16.0 (13.0-19.4)	6.9 (5.1-9.3)	5.1 (3.6-7.1)	5.1 (3.5-7.3)	3.0 (1.7-5.0)
Total	36.5 (34.6-38.3)	10.9 (9.8-12.0)	5.2 (4.4-6.1)	8.0 (7.1-9.1)	3.1 (2.6-3.8)	3.3 (2.8-4.0)	2.2 (1.7-2.8)	1.6 (1.2-2.2)
Female								
52-64	28.3 (26.2-30.5)	4.8 (3.9-5.9)	1.6 (1.1-2.3)	1.7 (1.2-2.5)	1.6 (1.1-2.4)	0.8 (0.5-1.4)	1.1 (0.7-1.7)	0.4 (0.2-0.9)
65-74	44.2 (41.0-47.4)	9.6 (7.9-11.5)	6.0 (4.6-7.9)	4.0 (2.9-5.5)	2.5 (1.7-3.7)	2.3 (1.5-3.3)	2.2 (1.4-3.3)	0.7 (0.3-1.5)
>=75	55.3 (51.2-59.3)	8.3 (6.2-11.0)	9.7 (7.3-12.9)	5.1 (3.6-7.3)	7.2 (5.4-9.7)	3.8 (2.6-5.5)	3.7 (2.4-5.6)	0.9 (0.4-2.1)
Total	39.1 (37.4-40.9)	6.9 (6.1-7.9)	4.8 (4.0-5.7)	3.2 (2.6-3.9)	3.2 (2.6-3.9)	1.9 (1.5-2.5)	2.0 (1.5-2.6)	0.6 (0.4-0.9)
Total								
52-64	29.2 (27.5-30.8)	6.1 (5.3-6.9)	1.9 (1.5-2.5)	2.8 (2.2-3.4)	1.3 (0.9-1.7)	1.3 (0.9-1.8)	0.9 (0.6-1.3)	0.8 (0.5-1.1)
65-74	44.1 (41.8-46.5)	12.0 (10.6-13.5)	6.3 (5.2-7.6)	7.3 (6.1-8.6)	3.6 (2.9-4.6)	3.7 (3.0-4.7)	2.6 (1.9-3.4)	1.1 (0.7-1.8)
>=75	50.3 (47.4-53.3)	11.3 (9.5-13.3)	10.4 (8.6-12.5)	9.7 (8.1-11.5)	7.1 (5.8-8.7)	4.3 (3.3-5.6)	4.3 (3.2-5.6)	1.8 (1.1-2.7)
Total	37.8 (36.5-39.2)	8.8 (8.2-9.5)	5.0 (4.3-5.6)	5.5 (4.9-6.1)	3.2 (2.8-3.6)	2.6 (2.2-3.0)	2.1 (1.7-2.5)	1.1 (0.8-1.4)

Table 3.A1b: Two-year incidence of cardiovascular conditions by age

	High BP	Any Irregular rhythm - self report new	Diabetes	TIA	Atrial Fibrillation (AF) - self report new	Angina	Heart Attack	Stroke	Heart Failure
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Male									
52-64	6.7 (5.5-8.1)	1.4 (1.0-2.1)	1.9 (1.3-2.7)	0.3 (0.1-0.8)	0.5 (0.2-0.9)	0.5 (0.3-1.0)	0.6 (0.3-1.2)	0.3 (0.1-0.7)	0.1 (0.0-0.5)
65-74	8.5 (6.8-10.5)	4.0 (2.9-5.5)	4.0 (2.8-5.5)	1.6 (0.9-2.6)	1.4 (0.8-2.4)	1.0 (0.5-1.9)	1.8 (1.1-2.9)	0.7 (0.3-1.5)	0.9 (0.4-1.7)
>=75	6.6 (4.8-9.1)	4.5 (3.0-6.6)	1.9 (1.0-3.5)	2.2 (1.3-3.9)	1.6 (0.8-3.1)	1.3 (0.6-2.8)	1.0 (0.4-2.4)	0.8 (0.3-2.0)	1.3 (0.6-2.6)
Total	7.2 (6.3-8.2)	2.7 (2.2-3.4)	2.5 (2.0-3.1)	1.0 (0.7-1.5)	0.9 (0.6-1.3)	0.8 (0.5-1.2)	1.0 (0.7-1.4)	0.5 (0.3-0.8)	0.5 (0.3-0.9)
Female									
52-64	5.3 (4.4-6.5)	1.6 (1.1-2.3)	1.1 (0.7-1.7)	0.3 (0.1-0.7)	0.4 (0.2-0.8)	0.3 (0.1-0.8)	0.3 (0.1-0.7)	0.1 (0.0-0.5)	0.1 (0.0-0.5)
65-74	6.7 (5.3-8.4)	4.0 (2.9-5.4)	2.5 (1.7-3.7)	0.8 (0.4-1.6)	0.8 (0.4-1.5)	0.9 (0.4-1.7)	0.9 (0.5-1.8)	0.2 (0.1-0.9)	0.1 (0.0-0.8)
>=75	6.2 (4.4-8.6)	5.5 (3.9-7.7)	1.6 (0.8-3.1)	2.0 (1.1-3.6)	1.5 (0.8-2.9)	1.1 (0.5-2.6)	1.1 (0.5-2.5)	1.2 (0.5-2.6)	0.3 (0.1-0.9)
Total	5.9 (5.1-6.8)	3.2 (2.6-3.9)	1.6 (1.3-2.1)	0.8 (0.6-1.3)	0.7 (0.5-1.1)	0.7 (0.4-1.0)	0.6 (0.4-1.0)	0.4 (0.2-0.8)	0.1 (0.1-0.3)
Total									
52-64	6.0 (5.3-6.9)	1.5 (1.2-2.0)	1.5 (1.1-2.0)	0.3 (0.2-0.6)	0.4 (0.2-0.7)	0.4 (0.3-0.7)	0.4 (0.2-0.7)	0.2 (0.1-0.4)	0.1 (0.0-0.3)
65-74	7.5 (6.4-8.8)	4.0 (3.2-5.0)	3.2 (2.5-4.1)	1.2 (0.8-1.8)	1.1 (0.7-1.7)	0.9 (0.6-1.5)	1.3 (0.9-2.0)	0.4 (0.2-0.9)	0.5 (0.2-0.9)
>=75	6.4 (5.0-8.1)	5.1 (3.9-6.6)	1.7 (1.1-2.7)	2.1 (1.4-3.1)	1.5 (1.0-2.4)	1.2 (0.6-2.1)	1.1 (0.6-1.9)	1.0 (0.6-1.9)	0.7 (0.4-1.3)
Total	6.5 (5.9-7.2)	3.0 (2.6-3.4)	2.0 (1.7-2.4)	0.9 (0.7-1.2)	0.8 (0.6-1.1)	0.7 (0.5-1.0)	0.8 (0.6-1.1)	0.4 (0.3-0.7)	0.3 (0.2-0.5)

Table 3.A2: Prevalence of cardiovascular conditions by sex, and two-year incidence of cardiovascular conditions by sex

	High BP W1		Diabetes W1		Heart attack W1		Angina W1		TIA W1		Stroke W1		Heart Failure W1	
	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
Male														
50-64	31.9	(29.6-34.3)	7.7	(6.5-9.1)	4.0	(3.2-5.1)	3.7	(2.9-4.7)	1.1	(0.7-1.7)	0.8	(0.4-1.3)	1.2	(0.7-1.8)
65-74	44.0	(40.8-47.2)	13.0	(11.1-15.2)	10.0	(8.3-12.0)	10.3	(8.5-12.5)	2.6	(1.8-3.7)	3.2	(2.3-4.6)	1.9	(1.2-3.0)
>=75	48.1	(43.8-52.3)	13.9	(11.2-17.2)	15.1	(12.4-18.4)	13.8	(11.3-16.8)	4.7	(3.3-6.7)	4.4	(3.0-6.5)	2.3	(1.3-4.2)
Total	37.7	(36.0-39.5)	10.1	(9.1-11.2)	7.4	(6.6-8.4)	7.1	(6.3-8.1)	2.1	(1.6-2.6)	2.0	(1.6-2.6)	1.6	(1.2-2.1)
Female														
50-64	31.2	(29.3-33.2)	4.8	(4.0-5.9)	1.5	(1.0-2.2)	2.1	(1.5-2.9)	1.2	(0.8-1.8)	1.1	(0.7-1.6)	0.4	(0.2-0.9)
65-74	46.2	(43.1-49.3)	8.6	(7.0-10.5)	3.3	(2.3-4.7)	6.6	(5.2-8.4)	2.4	(1.6-3.5)	2.3	(1.5-3.4)	1.1	(0.6-2.1)
>=75	57.7	(54.0-61.3)	9.3	(7.3-11.9)	5.2	(3.7-7.3)	11.1	(8.7-14.0)	5.6	(4.0-7.6)	2.3	(1.3-3.9)	1.3	(0.6-2.4)
Total	41.0	(39.4-42.6)	6.8	(6.0-7.7)	2.8	(2.3-3.4)	5.3	(4.5-6.1)	2.5	(2.0-3.1)	1.6	(1.2-2.2)	0.8	(0.5-1.1)
Total														
50-64	31.6	(30.0-33.1)	6.3	(5.5-7.1)	2.8	(2.3-3.4)	2.9	(2.4-3.5)	1.2	(0.9-1.6)	0.9	(0.7-1.3)	0.8	(0.6-1.2)
65-74	45.1	(42.9-47.3)	10.8	(9.5-12.1)	6.6	(5.5-7.7)	8.4	(7.2-9.8)	2.5	(1.9-3.2)	2.7	(2.1-3.5)	1.5	(1.0-2.2)
>=75	53.9	(50.9-56.8)	11.2	(9.4-13.2)	9.2	(7.7-10.9)	12.2	(10.3-14.3)	5.2	(4.1-6.6)	3.2	(2.3-4.3)	1.7	(1.1-2.6)
Total	39.4	(38.2-40.7)	8.4	(7.8-9.0)	5.0	(4.5-5.6)	6.1	(5.5-6.8)	2.3	(2.0-2.7)	1.8	(1.5-2.2)	1.2	(0.9-1.4)

Table 3.A3a: Prevalence of chronic conditions (non-cardiovascular) at wave 2 by age

	Arthritis	Osteoporosis	Wrist Frac W2	Lung disease	Hip Frac W2	Cancer	AMD W2	Glaucoma Self Report	Cataracts Self Report
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Male									
52-64	19.2 (17.1-21.4)	3.0 (2.3-4.0)	14.6 (12.9-16.6)	3.1 (2.3-4.2)	2.5 (1.8-3.4)	1.8 (1.2-2.6)	0.6 (0.3-1.1)	0.9 (0.5-1.5)	2.2 (1.6-3.1)
65-74	29.6 (26.7-32.8)	4.6 (3.4-6.2)	11.0 (9.0-13.3)	4.9 (3.6-6.5)	3.8 (2.7-5.3)	4.9 (3.7-6.5)	2.0 (1.3-3.1)	2.7 (1.9-4.0)	9.0 (7.2-11.0)
>=75	42.3 (38.2-46.6)	3.9 (2.6-5.8)	9.2 (7.0-11.9)	6.0 (4.3-8.5)	4.9 (3.3-7.4)	5.8 (4.1-8.0)	5.3 (3.6-7.6)	5.6 (4.0-7.9)	20.2 (17.1-23.7)
Total	26.5 (24.8-28.1)	3.6 (3.0-4.4)	12.6 (11.4-13.9)	4.2 (3.4-5.0)	3.3 (2.7-4.1)	3.4 (2.8-4.1)	1.9 (1.4-2.4)	2.3 (1.8-2.9)	7.5 (6.6-8.5)
Female									
52-64	28.0 (26.0-30.2)	17.7 (16.0-19.4)	9.2 (7.9-10.7)	4.4 (3.5-5.6)	1.3 (0.8-2.1)	1.3 (0.8-1.9)	1.2 (0.8-1.9)	1.6 (1.1-2.3)	3.9 (3.1-4.9)
65-74	47.7 (44.5-50.9)	29.7 (27.1-32.5)	13.4 (11.4-15.7)	6.1 (4.7-7.9)	1.4 (0.8-2.3)	3.7 (2.6-5.2)	3.5 (2.5-4.9)	3.8 (2.8-5.2)	15.5 (13.4-17.9)
>=75	58.5 (54.5-62.4)	30.8 (27.1-34.8)	19.6 (16.5-23.1)	6.8 (4.9-9.4)	5.9 (4.3-8.1)	1.8 (1.0-3.3)	7.6 (5.7-10.2)	5.6 (3.9-7.9)	28.3 (24.6-32.4)
Total	40.7 (39.0-42.5)	24.1 (22.6-25.6)	12.9 (11.7-14.2)	5.5 (4.7-6.4)	2.5 (1.9-3.1)	2.1 (1.6-2.6)	3.4 (2.8-4.2)	3.1 (2.6-3.9)	13.0 (11.7-14.3)
Total									
52-64	23.6 (22.1-25.1)	10.3 (9.4-11.3)	12.0 (10.8-13.2)	3.8 (3.1-4.5)	1.9 (1.5-2.5)	1.5 (1.2-2.0)	0.9 (0.6-1.3)	1.2 (0.9-1.7)	3.1 (2.5-3.7)
65-74	38.9 (36.6-41.3)	17.5 (16.0-19.2)	12.2 (10.7-13.9)	5.5 (4.5-6.7)	2.6 (1.9-3.4)	4.3 (3.4-5.3)	2.8 (2.1-3.6)	3.3 (2.6-4.2)	12.3 (10.9-13.9)
>=75	51.7 (48.8-54.6)	19.5 (17.3-22.0)	15.2 (13.2-17.5)	6.5 (5.1-8.2)	5.5 (4.3-7.1)	3.5 (2.6-4.6)	6.6 (5.2-8.4)	5.6 (4.4-7.2)	24.9 (22.3-27.7)
Total	33.9 (32.6-35.1)	14.3 (13.4-15.2)	12.7 (11.9-13.7)	4.8 (4.3-5.5)	2.9 (2.4-3.4)	2.7 (2.3-3.1)	2.7 (2.2-3.2)	2.7 (2.3-3.2)	10.3 (9.5-11.2)

AMD = age-related macular degeneration

Table 3.A3b: Two-year incidence of chronic conditions (non-cardiovascular)

	Arthritis % (95% CI)	Osteoporosis % (95% CI)	Cataracts New % (95% CI)	Cancer New % (95% CI)	Lung Disease % (95% CI)	Wrist Frac New % (95% CI)	AMD New % (95% CI)	Glaucoma New % (95% CI)	Hip Frac New % (95% CI)
Male									
52-64	5.3 (4.3-6.6)	2.4 (1.7-3.4)	1.4 (0.9-2.2)	1.2 (0.7-1.9)	1.5 (1.0-2.3)	1.0 (0.6-1.6)	0.2 (0.1-0.6)	0.5 (0.3-1.0)	0.1 (0.0-0.6)
65-74	7.1 (5.5-9.1)	2.3 (1.5-3.6)	5.9 (4.5-7.6)	3.6 (2.5-4.9)	1.5 (0.9-2.6)	0.7 (0.3-1.8)	0.8 (0.4-1.6)	0.9 (0.4-1.8)	0.6 (0.2-1.4)
>=75	11.2 (8.8-14.2)	2.1 (1.2-3.6)	10.6 (8.3-13.4)	3.5 (2.3-5.4)	2.4 (1.4-4.2)	0.8 (0.3-2.1)	2.7 (1.5-4.6)	1.2 (0.6-2.5)	0.7 (0.2-2.0)
Total	6.9 (6.0-8.0)	2.3 (1.8-3.0)	4.4 (3.7-5.2)	2.3 (1.8-2.9)	1.7 (1.3-2.3)	0.9 (0.6-1.3)	0.9 (0.6-1.3)	0.7 (0.5-1.1)	0.3 (0.2-0.6)
Female									
52-64	7.1 (5.9-8.4)	7.3 (6.2-8.5)	2.2 (1.6-3.0)	0.8 (0.4-1.3)	1.8 (1.2-2.5)	1.7 (1.2-2.4)	0.5 (0.3-1.0)	0.5 (0.2-0.9)	0.2 (0.1-0.6)
65-74	9.0 (7.4-11.1)	11.3 (9.5-13.3)	9.5 (7.8-11.4)	2.4 (1.6-3.6)	2.1 (1.4-3.2)	2.2 (1.5-3.3)	1.5 (0.9-2.5)	2.0 (1.3-3.1)	0.4 (0.1-1.1)
>=75	9.4 (7.2-12.2)	8.6 (6.5-11.4)	13.4 (10.8-16.4)	1.1 (0.5-2.5)	2.6 (1.5-4.2)	3.0 (1.9-4.8)	3.5 (2.2-5.4)	1.0 (0.5-2.2)	1.2 (0.6-2.6)
Total	8.2 (7.2-9.3)	8.7 (7.7-9.7)	6.8 (5.9-7.8)	1.3 (0.9-1.8)	2.0 (1.6-2.6)	2.1 (1.7-2.7)	1.5 (1.1-2.1)	1.0 (0.7-1.4)	0.5 (0.3-0.9)
Total									
52-64	6.2 (5.4-7.1)	4.8 (4.2-5.6)	1.8 (1.4-2.3)	1.0 (0.7-1.4)	1.6 (1.3-2.2)	1.3 (1.0-1.8)	0.4 (0.2-0.6)	0.5 (0.3-0.8)	0.1 (0.1-0.4)
65-74	8.1 (6.9-9.5)	6.9 (5.9-8.1)	7.7 (6.6-9.0)	2.9 (2.3-3.9)	1.8 (1.3-2.5)	1.5 (1.0-2.2)	1.2 (0.8-1.8)	1.5 (1.0-2.2)	0.5 (0.2-1.0)
>=75	10.2 (8.5-12.1)	5.9 (4.5-7.6)	12.2 (10.4-14.2)	2.1 (1.5-3.1)	2.5 (1.7-3.7)	2.1 (1.4-3.1)	3.1 (2.2-4.4)	1.1 (0.7-1.9)	1.0 (0.5-1.8)
Total	7.6 (6.9-8.4)	5.6 (5.1-6.2)	5.7 (5.1-6.3)	1.8 (1.4-2.1)	1.9 (1.5-2.3)	1.5 (1.2-1.9)	1.2 (0.9-1.5)	0.9 (0.7-1.2)	0.4 (0.3-0.7)

AMD = age-related macular degeneration

Table 3.A4a: Prevalence of falls, recurrent falls, and injurious falls by age and sex at wave 2

	Falls W2		Recurrent Falls W2		Injurious Falls W2	
	%	(95% CI)	%	(95% CI)	%	(95% CI)
Male						
52-64	15.9	(14.1-17.9)	6.8	(5.6-8.1)	5.6	(4.6-6.9)
65-74	20.7	(18.1-23.6)	10.1	(8.3-12.3)	7.1	(5.5-9.0)
>=75	24.2	(20.9-27.9)	10.3	(8.0-13.3)	10.5	(8.2-13.4)
Total	18.8	(17.4-20.3)	8.4	(7.4-9.4)	6.9	(6.1-7.9)
Female						
52-64	20.8	(18.9-22.9)	7.5	(6.3-8.9)	9.0	(7.8-10.4)
65-74	25.9	(23.2-28.8)	9.8	(8.0-11.9)	12.9	(10.9-15.1)
>=75	33.8	(30.1-37.7)	12.0	(9.5-15.0)	19.7	(16.6-23.1)
Total	25.3	(23.8-26.9)	9.2	(8.2-10.3)	12.7	(11.5-13.9)
Total						
52-64	18.4	(17.0-19.8)	7.1	(6.2-8.1)	7.3	(6.5-8.2)
65-74	23.4	(21.5-25.4)	9.9	(8.6-11.4)	10.0	(8.8-11.5)
>=75	29.8	(27.1-32.6)	11.3	(9.4-13.4)	15.8	(13.8-18.1)
Total	22.2	(21.1-23.3)	8.8	(8.1-9.6)	9.9	(9.2-10.7)

Table 3.A4b: Prevalence of falls, recurrent falls, and injurious falls by age and sex at wave 1

	Falls W1		Recurrent Falls W1		Injurious Falls W1	
	%	(95% CI)	%	(95% CI)	%	(95% CI)
Male						
50-64	17.6	(15.8-19.6)	7.2	(6.1-8.5)	4.4	(3.5-5.5)
65-74	17.3	(15.0-20.0)	7.0	(5.6-8.7)	6.2	(4.8-7.9)
>=75	22.8	(19.5-26.4)	7.1	(5.2-9.8)	7.8	(5.8-10.2)
Total	18.4	(17.0-19.9)	7.1	(6.3-8.0)	5.4	(4.7-6.3)
Female						
50-64	17.7	(16.0-19.5)	6.5	(5.5-7.6)	6.7	(5.6-8.0)
65-74	21.5	(19.0-24.2)	7.7	(6.3-9.3)	9.1	(7.4-11.0)
>=75	25.8	(22.5-29.3)	10.8	(8.5-13.5)	12.5	(10.3-15.2)
Total	20.5	(19.1-21.9)	7.8	(6.9-8.7)	8.6	(7.7-9.6)
Total						
50-64	17.6	(16.4-19.0)	6.8	(6.1-7.7)	5.6	(4.8-6.4)
65-74	19.5	(17.7-21.4)	7.3	(6.3-8.5)	7.7	(6.6-8.9)
>=75	24.6	(22.1-27.2)	9.3	(7.7-11.2)	10.6	(9.0-12.5)
Total	19.5	(18.4-20.6)	7.5	(6.8-8.2)	7.1	(6.5-7.8)

Table 3.A5: Prevalence of negative health behaviours by age

Prevalence Wave 1	Smoking		Problematic Alcohol Use		Low Physical Activity	
	%	(95% CI)	%	(95% CI)	%	(95% CI)
52-64						
Total	21.7	(20-23)	15.9	(15-17)	27.3	(26-29)
65-74						
Total	15.3	(13-17)	8.3	(7-10)	31.9	(30-34)
>=75						
Total	9.5	(8-12)	4.0	(3-6)	48.5	(45-52)
Total						
Total	18.3	(17-19)	12.2	(11-13)	31.7	(30-33)
Prevalence Wave 2	Smoking		Problematic Alcohol Use		Low Physical Activity	
	%	(95% CI)	%	(95% CI)	%	(95% CI)
52-64						
Total	21.2	(20-23)	19.9	(18-22)	26.9	(25-29)
65-74						
Total	13.5	(12-15)	12.5	(11-15)	33.2	(31-36)
>=75						
Total	9.3	(8-11)	8.0	(6-11)	51.6	(48-55)
Total						
Total	16.5	(16-18)	15.9	(15-17)	34.0	(32-36)

Table 3.A6: Prevalence of negative health behaviours by sex

Prevalence Wave 1	Smoking		Problematic Alcohol Use		Low Physical Activity	
	%	(95% CI)	%	(95% CI)	%	(95% CI)
Male						
<i>Total</i>	18.5	(17-20)	16.6	(15-18)	25.2	(23-27)
Female						
<i>Total</i>	18.1	(17-19)	8.1	(7-9)	37.8	(36-40)
Total						
<i>Total</i>	18.3	(17-19)	12.2	(11-13)	31.7	(30-33)
Prevalence Wave 2	Smoking		Problematic Alcohol Use		Low Physical Activity	
	%	(95% CI)	%	(95% CI)	%	(95% CI)
Male						
<i>Total</i>	16.4	(15 -18)	21.7	(19-23)	26.6	(25-28)
Female						
<i>Total</i>	16.6	(15 -18)	11.0	(10-12)	40.8	(39-43)
Total						
<i>Total</i>	16.5	(15 -18)	15.9	(15-17)	34.0	(32-36)

Table 3.A7a: Changes in problematic alcohol use between wave 1 and wave 2 by age

	None		Problematic Alcohol Use		Total	Number in sample
	%	95% CI	%	95% CI		
50-64						
0	92	[91-93]	8	[7-9]	100	2269
1	30	[25-34]	70	[66-75]	100	473
<i>Total</i>	81	[79-83]	19	[17-21]	100	2742
65-74						
0	94	[92-95]	6	[5-8]	100	973
1	36	[28-46]	64	[54-72]	100	119
<i>Total</i>	88	[85-90]	12	[10-15]	100	1092
>=75						
0	95	[93-97]	5	[3-7]	100	418
1	34	[15-58]	66	[42-85]	100	25
<i>Total</i>	92	[89-94]	8	[6-11]	100	443
Total						
0	93	[92-94]	7	[6-8]	100	3660
1	31	[27-35]	69	[65-73]	100	617
<i>Total</i>	84	[83-85]	16	[15-17]	100	4277

Note. CI = confidence interval; Missing observations = 32.81%

Table 3.A7b: Changes in problematic alcohol use between wave 1 and wave 2 by sex

	None		Problematic Alcohol Use		Total	Number in sample
	%	95% CI	%	95% CI		
Male						
0	90	[89-92]	10	[8-11]	100	1610
1	32	[27-37]	68	[63-73]	100	377
<i>Total</i>	79	[77-81]	21	[19-23]	100	1987
Female						
0	95	[94-96]	5	[4-6]	100	2050
1	29	[23-36]	71	[64-77]	100	240
<i>Total</i>	89	[87-90]	11	[10-13]	100	2290
Total						
0	93	[92-94]	7	[6-8]	100	3660
1	31	[27-35]	69	[65-73]	100	617
<i>Total</i>	84	[83-85]	16	[15-17]	100	4277

Note. CI = confidence interval; Missing observations = 32.81%

Table 3.A8: Changes in physical activity between waves by age

	W2 Low activity		W2 Medium activity		W2 High activity		Total	Number in sample
	%	95% CI	%	95% CI	%	95% CI		
52-64								
W1 Low activity	49	[45-52]	28	[25-31]	23	[20-27]	100	960
W1 Medium activity	25	[22-28]	44	[40-47]	32	[29-35]	100	1219
W1 High activity	14	[12-16]	29	[26-31]	57	[54-60]	100	1403
<i>Total</i>	27	[25-29]	33	[32-35]	40	[38-42]	100	3582
65-74								
W1 Low activity	58	[53-62]	27	[24-31]	15	[12-19]	100	620
W1 Medium activity	26	[22-29]	49	[45-53]	25	[22-29]	100	740
W1 High activity	19	[16-22]	30	[26-34]	52	[47-56]	100	684
<i>Total</i>	33	[31-36]	36	[34-38]	31	[28-34]	100	2044
>=75								
W1 Low activity	69	[65-73]	20	[17-24]	11	[8-14]	100	551
W1 Medium activity	41	[36-47]	44	[39-50]	15	[11-19]	100	423
W1 High activity	29	[23-36]	35	[29-41]	36	[30-43]	100	291
<i>Total</i>	52	[48-55]	31	[28-34]	17	[15-20]	100	1265
Total								
W1 Low activity	58	[55-60]	25	[23-27]	17	[15-20]	100	2131
W1 Medium activity	28	[26-31]	45	[43-48]	26	[24-29]	100	2382
W1 High activity	17	[15-19]	30	[28-32]	53	[50-56]	100	2378
<i>Total</i>	34	[32-36]	34	[32-35]	32	[31-34]	100	6891

Note. CI = confidence interval; Missing observations = 0.00%

Table 3.A9: Changes in physical activity between waves by sex

	W2 Low activity		W2 Medium activity		W2 High activity		Total	Number in sample
	%	95% CI	%	95% CI	%	95% CI		
Male								
W1 Low activity	51	[47-54]	29	[26-32]	20	[18-24]	100	793
W1 Medium activity	25	[22-28]	44	[41-48]	31	[27-34]	100	1023
W1 High activity	14	[12-16]	27	[24-29]	60	[57-63]	100	1339
Total	27	[25-29]	33	[31-35]	40	[38-43]	100	3155
Female								
W1 Low activity	62	[58-65]	23	[21-26]	15	[13-18]	100	1338
W1 Medium activity	31	[28-35]	46	[43-49]	23	[20-26]	100	1359
W1 High activity	23	[20-26]	35	[32-38]	43	[39-47]	100	1039
Total	41	[39-43]	34	[32-36]	25	[23-27]	100	3736
Total								
W1 Low activity	58	[55-60]	25	[23-27]	17	[15-20]	100	2131
W1 Medium activity	28	[26-31]	45	[43-48]	26	[24-29]	100	2382
W1 High activity	17	[15-19]	30	[28-32]	53	[50-56]	100	2378
Total	34	[32-36]	34	[32-35]	32	[31-34]	100	6891

Note. CI = confidence interval; Missing observations = 0.00%

Appendix 3B: Figures on Changes in Physical and Behavioural Health in Older Irish Adults

Figure 3.B1a: Prevalence of smoking in wave 2 by age (5-year age groups)

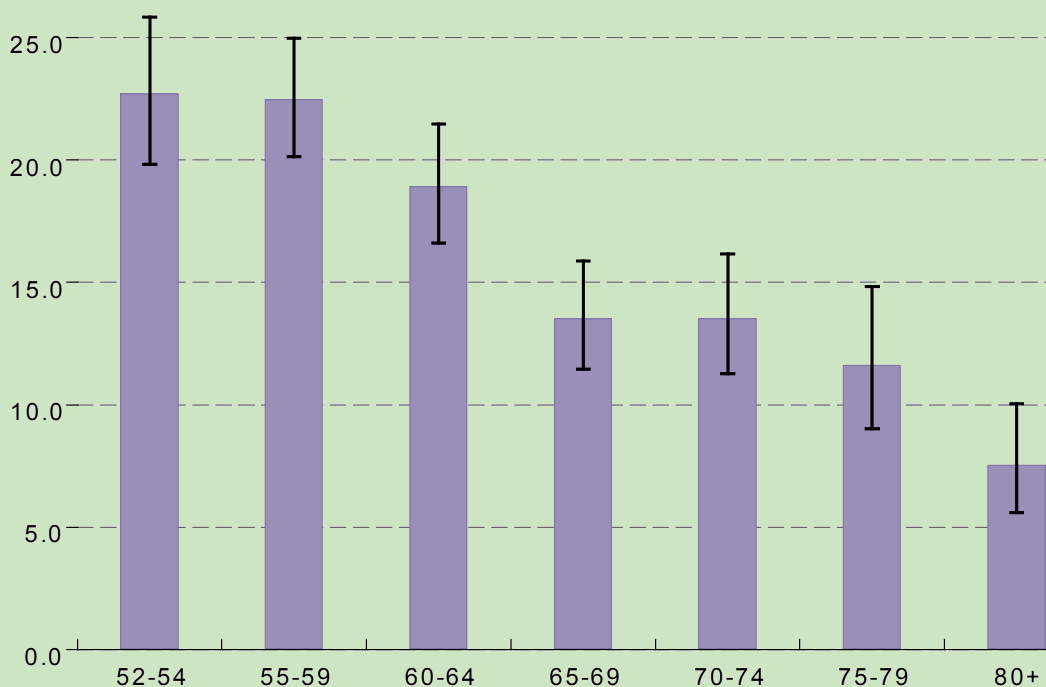
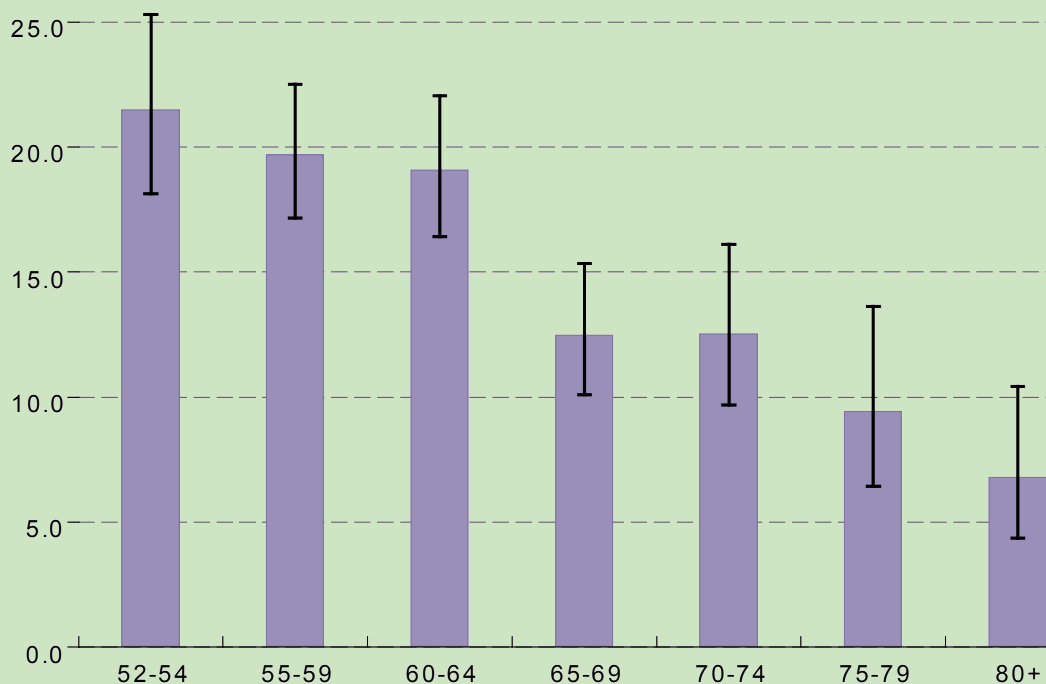


Figure 3.B1b: Prevalence of problematic alcohol use in wave 2 by age (5-year age groups)



Appendix 3C: The CAGE Screening Questionnaire Tool

The CAGE questionnaire is a set of 4 questions that indicates the likelihood of a drinking problem. The questions are as follows:

1. Have you ever felt you needed to **C**ut down on your drinking?
2. Have people **A**nnoyed you by criticizing your drinking?
3. Have you ever felt **G**uilty about drinking?
4. Have you ever felt you needed a drink first thing in the morning (**E**ye-opener) to steady your nerves or to get rid of a hangover?

A positive answer to each question is given a score of 1 and summed to give a total CAGE score, where a CAGE score ≥ 2 is indicative of problem drinking.