

skilled/unskilled (IV/V)) based on the Registrar General Social Class classification and we looked at absolute and relative differences between I/II and IV/V. To test differences in mean intake by demographic characteristics, we used t-tests and linear regression. All analyses were conducted in StataSE 13.

Results Overall FV intake increased by 20% from 1986/87 (2.67 portions, 95% confidence interval [2.59,2.74]) to 2008/12 (3.21 portions [3.10,3.32]), but still fell short of the recommended 5 portions. We found higher FV intake in socioeconomic group I/II compared to IV/V across all years (difference of 0.96–1.28 portions; 26.09%–36.36%). FV intake also differed by age across all surveys, with older respondents eating more than younger respondents (1.03–2.08 portions; 51.76%–129.19%). Men ate significantly more FV than women in 1986/87 (0.18 portions; 6.52%) but there was no significant difference in the latter time points.

Conclusion While FV consumption has increased in the UK since 1986, and sex differences in consumption have disappeared, socioeconomic and age-related inequalities persist. Population-level strategies to improve diet and increase FV intake are still needed in the promotion of public health. In order to redress inequalities, it is crucial that these strategies are at least or more effective in lower versus higher socioeconomic groups, and in younger versus older adults.

Ageing 1

OP49

ASSOCIATION BETWEEN TEMPERATURE AND DEATH AMONG ELDERLY PEOPLE IN ENGLAND 2012/13–2013/14: A CASE-CROSSOVER DESIGN

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Background Around 24 000 extra deaths occur annually in winter in England and Wales. NICE guidance suggests GPs should identify patients most at risk. We investigated whether socio-demographic and clinical characteristics could predict cold-related mortality.

Methods Data on over 5 000 000 patients aged 65+ from the Clinical Practice Research Datalink (CPRD) were linked with ONS death registration, yielding 34 777 patients who died between April 2012 and March 2014. We used daily temperature data from the Met Office to calculate (i) absolute mean temperature and (ii) difference from average monthly temperature (relative temperature) for the date of death and three days previously. In a case-crossover analysis, we also calculated both temperature measures for the 14th day before and the 14th day after the date of death. Patients assumed to live in an institution were identified using the CPRD family number. From linked Hospital Episode Statistics, we determined whether an emergency hospital admission occurred two years before death to indicate previous health status. Deprivation level and house energy efficiency were determined from patient's and practice's Lower Super Output Area respectively: the latter used information from the Centre for Sustainable Energy. Conditional logistic regression models were applied to estimate the odds ratio (OR) of death associated with

temperature and interactions between temperature and socio-demographic, medical and house quality characteristics were expressed as relative odds ratios (RORs).

Results Higher absolute temperature was associated with lower risk of death (OR 0.985 per 1°C; 95% CI 0.975–0.992; $p < 0.001$). There was weak evidence of a positive association between risk of death and higher relative temperature (OR 1.008 per 1°C; 95% CI 0.999–1.017; $p = 0.056$). No interactions were found between temperature measures and age, gender, living in urban/rural areas, deprivation level, or house energy efficiency in either bivariable or multivariable analyses. There was some evidence for a stronger effect of higher relative temperature for those living in an institution (ROR 1.025; 95% CI 1.002–1.048; $p = 0.03$), but not in multivariable analysis. Effects of temperature measures differed between those who had none vs at least one previous emergency admission: ORs for absolute temperature were 0.970 and 0.988 per 1°C, with ROR 1.018, 95% CI 0.998–1.039, $p = 0.079$. For relative temperature ORs were 1.033 and 1.003, with ROR 0.974, 95% CI 0.951, 0.997, $p = 0.025$, suggesting less impact of relative temperature for those with a previous emergency admission.

Conclusion Recommendations for GPs to identify those at highest risk during cold weather cannot be supported by these results.

OP50

INEQUALITIES IN TIME BETWEEN STOPPING WORK AND DEATH: ONS LONGITUDINAL STUDY

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Background Due to the financial challenges of increasing life expectancy, many industrialised countries are raising state pension eligibility ages (SPA). However, use of average life expectancy to calculate SPA ignores inequalities in health and life expectancy across socio-economic groups.

Methods Data was used from 1 20 552 members of The Office for National Statistics Longitudinal Study (LS) who were aged 50–75 at the 2001 census and had information on work status at the 2011 census, or died between 2001 and 2011. First, multinomial logistic regression was used to examine the odds of being dead or not being in work at the 2011 census date, compared to being in paid work, by Registrar General occupational social classes. Then, right-censored linear regression was used to examine mean social class differences in age of stopping work, age of death, and years of life between stopping work and death before aged 85; separately for each outcome. All models were adjusted for gender and self-rated health status in 2001.

Results By the 2011 census date, 12.8% of the sample had died, 66.8% were alive but not working and 20.4% remained in work. Women were less likely to both to die in the next 10 years or to remain in work than men. Gender-adjusted analyses showed that lower social class was associated with earlier mean age of stopping work [unskilled manual vs professional: –2.76 years (95% CI –3.04, –2.48)] and mean age of dying (before aged 85) [–3.92 (–4.56, –3.27)]. Before aged 65, work exit was mostly due to exit from paid employment, rather than mortality; although unskilled workers in this age group were still 1.92 times (1.69, 2.19) more likely to die

over the 10 year period than professional workers. Most of these differences were explained by health status in 2001. For those who stopped work (n=89,330), gender-adjusted mean differences in time from stopping work to death (before aged 85) were greatest for managerial and skilled non-manual groups [0.76 (0.02,1.50) and 1.01 (0.24,1.77)], compared to professional occupations, with no differences seen for lower social groups. This U-shaped relationship was explained by the combination of higher social class occupations staying in work longer but experiencing lower rates of mortality, and lower social class occupations leaving work at earlier ages but experiencing higher rates of mortality.

Conclusion Lower occupational social groups were both more likely to stop work before state pension age and also could expect less years in receipt of state pension.

OP51

FUNCTIONAL AND MENTAL HEALTH TRAJECTORIES PREDICTING DEMENTIA INCIDENCE: LATENT CLASS ANALYSIS IN THE ENGLISH LONGITUDINAL STUDY OF AGEING

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Background Functional disability and depression might be related to an increased risk of future dementia. We aimed to examine the occurrence of functional disability and depression over an eight-year period and evaluate the predictive role of these changes in dementia incidence.

Methods The data used for these analyses are from 1670 men and women aged 65 and older from the English Longitudinal Study of Ageing (ELSA), an on-going, open, prospective cohort study. Seven waves of data between 2002 and 2014 were analysed.

Dementia was determined by doctor-diagnosis combined with a score above the threshold of 3.38 on the Informant Questionnaire on Cognitive Decline in the Elderly.

Independent linear growth models with time-invariant covariates and a categorical distal outcome (dementia incidence in 2014) were used to examine whether different trajectories of functional abilities (activities of daily living, ADL; and instrumental activities of daily living, IADL) or depressive symptoms (Centre for Epidemiologic Studies Depression Scale, CES-D) between 2002 and 2010 were predictive of new dementia cases four years later.

Results We identified three independent patterns of functional and depressive symptoms trajectory. Most people showed no functional impairments over time ('class III') in either ADL (86%) or IADL (90%), a small group showed a steep deterioration ('class II') in ADL (5%) and IADL (3%), while the others show a substantial disability in either ADL (9%) or IADL (7%) at baseline with only a slow improvement over time ('class I'). Similarly, most participants (79%) did not experience depressive symptoms during the study period ('class III'), a small group (9%) showed increased depressive symptoms over time ('class II'), while the others (2%) started with depressive symptoms and experienced a minor improvement over time ('class I').

After adjustment for age, sex, education and wealth, relative to participants in 'class III', study members who experienced a sharp deterioration in either measure of functional capabilities or depressive symptoms ('class II') were markedly more likely to be classified with dementia four years later (ADL: Odds Ratio (OR)=3.29 (95% Confidence Intervals (CI) 0.37–6.21); IADL: OR=14.59 (95% CI 2.09–26.09) and CES-D: OR=3.94 (95% CI 1.27–6.61)).

Conclusion Our results showed heterogeneity in all measures of functional abilities or depressive symptoms over time, suggesting that a steeper decline in each of these functions is not necessarily a normative process, but could constitute an early indication of neurodegeneration and pre-clinical symptomatology.

OP52

ENJOYMENT OF LIFE AS A PREDICTOR OF HEALTHY LIFE EXPECTANCY: EVIDENCE FROM THE ENGLISH LONGITUDINAL STUDY OF AGEING

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Background In older adults evidence showed that subjective wellbeing is associated with reduced risk of mortality and the incidence of chronic conditions. With the dramatic increase in life expectancy, it is important to gain a better understanding of the lives of older individuals. While life expectancy is a useful indicator of health, it is becoming increasingly recognised that health expectancy, which quantifies the quality of remaining years of life, is also crucial. The aim of this study is to estimate health expectancy in men and women according to enjoyment of life.

Methods We used data from a nationally representative sample of 8852 individuals aged 50 and over participants of the English Longitudinal Study of Ageing (ELSA), followed from 2002 to 2013. The main outcome measures are chronic disease-free and disability-free health expectancy, the main exposure is enjoyment of life, adjustment variables are social class, sex and age. Discrete-time multistate life table models were used to estimate health expectancies from the ages of 50 to 100, by age and sex and adjusted for social class.

Results Men and women experiencing high enjoyment of life could expect to live an additional 32 and 34 years of their remaining lives free from disability. Disability-free life expectancy at the age of 50 and 65 was approximately four years shorter for men and women who experienced low enjoyment of life compared to those who experienced high enjoyment of life. At the age of 50 men and women who experienced low enjoyment of life could expect to live an additional 16 years of their lives free from a chronic condition, compared to 20 and 22 additional years for men and women who experienced high enjoyment of life. At the age of 65 chronic disease-free life expectancy is 6 years for men and women experiencing low enjoyment of life and 9 years for those who experienced high enjoyment of life.

Conclusion Our study showed that those who experienced enjoyment of life have higher life expectancy than those who don't. This study also showed that the quality of remaining life is also important, individuals experiencing high enjoyment of life could expect to live a higher number of years in good health (without disability and chronic conditions) compared to those experiencing low enjoyment of life.