

Edinburgh Mental Wellbeing Scale (SWEMWBS). Secondary outcome measures were BMI, fruit and vegetable intake, physical activity, alcohol consumption, smoking and self-efficacy.

**Results** Clients reported positive experiences of engaging with the service and described making lifestyle changes, such as reducing portion sizes or trying new activities. Many would have liked a longer intervention (usually 8–12 weeks) and staff agreed that the duration was often insufficient for those with more complex physical, mental and/or social needs. Pre/post analysis of the intervention data revealed significant improvements across all outcome measures, with the largest changes observed in clients with the least positive results at baseline. These changes were largely maintained at both follow-up periods. Furthermore, reductions in the differences in EQ-5D and SWEMWBS scores between clients from the 30% most deprived communities and all other clients at the six-month follow-up stage implied that inequalities had narrowed over time. The value for money assessment indicated an estimated cost per quality-adjusted life year (QALY) of £3900 and a social return on investment of around £3.59 for every £1 spent on WFL.

**Discussion** An integrated health and wellbeing approach can be acceptable to members of the target communities, encourage them to make and maintain lifestyle changes, and potentially reduce health inequalities. The WFL service appeared to represent good value for money, although the reliance on self-report data and lack of a control group were limitations of the study design. Further research is needed to establish the effectiveness of this approach over other intervention models.

## Lifecourse later life

OP08

### EXPLAINING TRENDS IN CORONARY HEART DISEASE MORTALITY AND SOCIOECONOMIC INEQUALITIES IN DENMARK 1991–2007: IMPACT<sub>SEC</sub> MODEL ANALYSIS USING ROUTINE DATA

<sup>1</sup>AM Joensen\*, <sup>2,3,4</sup>T Joergensen, <sup>5</sup>S Lundbye-Christensen, <sup>5</sup>MB Johansen, <sup>6</sup>M Guzmán-Castillo, <sup>6</sup>P Badosz, <sup>7</sup>J Hallas, <sup>8</sup>EIB Prescott, <sup>6</sup>S Capewell, <sup>6</sup>M O'Flaherty. <sup>1</sup>Department of Cardiology, Aalborg University Hospital, Aalborg, Denmark; <sup>2</sup>Research Centre for Prevention and Health, The Capital Region, Glostrup, Denmark; <sup>3</sup>Department of Public Health, University of Copenhagen, Copenhagen, Denmark; <sup>4</sup>Department of Clinical Medicine, Aalborg University, Aalborg, Denmark; <sup>5</sup>Unit of Clinical Biostatistics and Bioinformatics, Aalborg University Hospital, Aalborg, Denmark; <sup>6</sup>Department of Public Health and Policy, University of Liverpool, Liverpool, UK; <sup>7</sup>Clinical Pharmacology, Department of Public Health, University of Southern Denmark, Odense, Denmark; <sup>8</sup>Bispebjerg University Hospital, Capital Region of Denmark, Copenhagen, Denmark

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**Background** Coronary heart disease (CHD) mortality has declined substantially during recent decades but is still one of the leading causes of death, morbidity and healthcare costs in Denmark. Furthermore, socioeconomic inequalities persist. Quantifying the contributions of prevention and treatment to these recent declines might help to identify the most successful health policies, particularly for reducing inequalities.

**Methods** We used IMPACT<sub>SEC</sub>, a previously validated policy model, to apportion the recent decline in Danish CHD mortality to changes in major cardiovascular risk factors, and to increases in treatments in nine non-overlapping patient groups. Participants: All Danish adults aged 25–84 years, stratified by gender, age group and quintiles of financial income. Main

outcome measure: Deaths prevented or postponed (DPP), stratified by socio-economic circumstance (SEC).

**Results** There were 11 110 fewer CHD deaths in 2007 than would be expected if the 1991 mortality rates had persisted. This reflected a dramatic 74% fall in CHD mortality rates (from 433 to 113 deaths per 100,000). Improved treatments accounted for approximately 24% (95% confidence interval=21%–28%). This contribution was higher in more affluent quintiles (approximately 26%) and least in the most deprived group (19%). The biggest contributions came from the treatment of congestive heart failure in the community (630 DPPs=5.7% of all DPPs) and in hospital (410 DPPs=3.7%).

Risk factor improvements accounted for approximately 40% (37%–44%) of the mortality fall. This contribution was higher in the central quintiles –approximately 51% (47%–58%) and least in the most deprived quintile – approximately 36% (29%–39%). The largest contribution came from population falls in cholesterol levels approximately 24% (22.7%–25.4%) of all DPPs; and decreases in smoking, some 10% (8.4%–12.2%).

Overall, the IMPACT<sub>SEC</sub> model could explain two thirds of the mortality fall. The 36% gap most likely reflects deficiencies in data, notably in population blood pressure and income.

**Conclusion** Denmark has benefited from one of biggest falls in CHD mortality in high income countries. The treatment uptake rate in Denmark was comparable with that in other countries and treatments accounted for approximately one third of the total mortality fall, much as in other, comparable populations. The largest contributions came from population-wide, non-pharmacological reductions in major risk factors, notably cholesterol and smoking. Future strategies should therefore prioritise population-wide prevention policies.

OP09

### CHILDHOOD COGNITIVE ABILITY AND STANDING BALANCE IN MID TO LATER LIFE: FINDINGS FROM THE MRC NATIONAL SURVEY OF HEALTH AND DEVELOPMENT

JM Blodgett\*, D Kuh, DHJ Davis, R Cooper. MRC Unit for Lifelong Health and Ageing, UCL, London, UK

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**Background** Physical performance indicators, such as standing balance, grip strength and walking speed, are increasingly being used as markers of healthy ageing. This is based on growing evidence that poor performance on these tests is associated with adverse health outcomes including falls, disability, hospitalisation and mortality. Individual variation in the levels of performance on each of these tests may be due to diverse contributing factors across life. Previous research has suggested that neurodevelopmental pathways may be particularly important for balance performance; however the few published studies on this have only examined balance at one age. We aimed to examine the associations between childhood cognitive ability, a marker of neurodevelopment, and standing balance at three ages in mid and later life.

**Methods** Up to 2785 participants from the MRC National Survey of Health and Development, a British cohort study followed since birth in 1946, were included in analyses. Standing balance was assessed at ages 53, 60–64 and 69 using the one-legged stand test with eyes closed up to a maximum of 30 s.