numeracy at year 5. This could be due to improved T1D management in South Australia.

EXPLAINING THE FALL IN CORONARY HEART DISEASE MORTALITY IN THE REPUBLIC OF IRELAND BETWEEN 2000 AND 2015 – AN IMPACT MODELLING STUDY

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Aim To investigate the proportional contributions of coronary heart disease (CHD) determinants to the observed CHD mortality rates in Ireland between 2000–2015.

Methods The validated IMPACT model on CHD mortality, which has been developed with the purpose of merging epidemiological data that is available for each country, was utilized for the estimations. Data on population statistics, CHD patient numbers, treatment uptakes and population trends on key risk factors (eg. smoking, total cholesterol, hypertension, obesity, DM and physical inactivity) were sourced from national registries, hospital administration systems, national health surveys, large cohort studies, international registries and meta-analyses. CHD Deaths Prevented or Postponed (DPPs) were used as outcome measurement.

Results CHD mortality in Ireland fell by 56% (4060 fewer deaths), faster in women than in men (63% vs 53%), in the period 2000–2015 in those aged 25–84 years. Improvements in CHD risk factors, ie decrease in smoking prevalence (5%), population systolic blood pressure (-25%) and mean cholesterol serum levels (-11%), contributed to 30% of the decline with 785 DPPs in men vs 425 in women. In both men and women, systolic blood pressure reductions and cholesterol reductions contributed equally (200 DPPs each), and decreased smoking prevalence contributed to 80 DPPs. Likewise, DPPs in men followed a similar trend (SBP - 825; total cholesterol- 250; and, smoking-110).

Improvements in cardiological treatments, specially in secondary prevention and heart failure treatments, contributed to approximately 60% of the observed decline (1620 DPPs in men and 825 in women). Both males and females benefited the most DPPs from improvements in secondary prevention (850 and 355 DPPs, respectively). These gains were offset by increases in physical inactivity (2%), diabetes prevalence (6%) and BMI (4%). Overall, improvements in CHD treatments were more beneficial to men whilst better risk factor contribution were higher in women. Advancements in CHD treatments were more beneficial than risk factors in all age groups. These proportions remained relatively consistent across a wide range of assumptions and estimates in a sensitivity analysis except for physical inactivity which has transcended the null line.

Conclusion The CHD mortality decline has continued between 2000–2015 of which 90% can be explained by improvements in cardiological treatments and population risk factors with the IMPACT modelling study. However, worsening trends in diabetes prevalence, obesity and physical inactivity have reversed the gains. Investments in improving CHD death determinants and targeted policies are necessary to sustain a further decline in CHD mortality rates in Ireland.