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The impact of weight-loss interventions on health expenditure in Australia: Evidence from a microsimulation model of obesity and chronic disease

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Obesity is a costly health issue within the Australian context. It is a major risk factor for multiple chronic diseases, significantly contributing to Australia's burden of disease and health system costs. This study describes potential health system savings and productivity gains in the older working population across three interventions: usual care of general practitioner advice, commercial weight loss programmes by doctor referral and bariatric surgery.

This study is based on a microsimulation model, NCDMod, focused on obesity, its inter-relationship with other health risk factors and chronic disease (cardio-vascular disease and diabetes). The model uses the ABS 2005 National Health Survey as the base file and projects out to 2025 in 5 year increments. BMI transition equations operate by changing an individual's weight over time as their risk factors change. The model allows the comparison of various health outcomes. The projected CVD prevalence are then input into Health&WealthMOD2030 to obtain productivity impact measures including productive years of life lost.

The modelling included simulation of approximately 300,000 participants in the commercial weight loss programme scenario and 30,000 individuals in the bariatric surgery scenario. Under the model assumptions, commercial weight loss programme scenario projected 3500 adverted cases of diabetes, 7500 averted CVD incidents and 2000 CVD deaths avoided over 10 years. Bariatric surgery scenario projected 2500 averted cases of diabetes, 2000 averted CVD events and 30 averted CVD deaths. To the health system, the commercial weight loss programme projected $Au 2200 million savings to the health system whilst the bariatric surgery projected approximately $Au 150 million in savings to the health system in the 10 year period.

Interventions such as a commercial weight loss programme, with potential wider reach, though not as effective at the individual level for weight loss, have potential population level impact offering meaningful prevention of chronic disease and health system savings.

https://doi.org/10.1016/j.orcp.2016.10.063

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Improving nutrition in Australia and globally: Lessons from Mai Wiru and the Anangu Pitjantjatjara Yankunytjatjara Lands

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Introduction: Indigenous communities suffer a greater burden of diet-related ill health than other Australians. This study examined impact of efforts to improve nutrition and food supply on Anangu Pitjantjatjara Yankunytjatjara (APY) Lands in Central Australia from 1986.

Methods: Multiple methods were employed including systematic document searches. Dietary intake of the five APY communities that have a Mai Wiru (good food) store was quantified by the store-turnover method. The price of a basket of basic foods, implementation of nutrition policy requirements and healthy food checklists were assessed in all APY communities at intervals from 2012. Results were compared with previous available data.

Results: Concerted efforts resulted in marked achievements including decreased intake of sugar, increased availability and affordability of healthy foods (particularly fruit and vegetables) and consequent improvement in some nutrient intakes. Yet, the overall effect has been a decrease in total diet quality since 1986, characterised by increased sup-