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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 averted 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-

ply of unhealthy products high in saturated fat, added sugar and salt, particularly sugar sweetened beverages, convenience meals and take-away foods.

Conclusions: Improvements confirm that residing in remote communities can help Aboriginal residents exert control over key aspects of the food system. However, the overall findings reflect broader changes to the broader Australian food supply and reinforce the notion that, in the absence of supportive regulation and market intervention, adequate and sustained resources are required to improve nutrition, prevent and manage diet-related disease on the APY Lands. The study also provides insights into food systems affecting other remote communities, wider Australia and countries globally [1].

Reference

- [1] Lee A, Rainow S, Tregenza J, Tregenza L, Balmer L, Bryce S, et al. Nutrition in remote Aboriginal communities: lessons from Mai Wiru and the Anangu Pitjantjatjara Yankunytjatjara Lands. *ANZJPH* 2015;41(S1):S81–8, <http://dx.doi.org/10.1111/1753-6405.12419>.

<https://doi.org/10.1016/j.orcp.2016.10.064>

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A new index to examine junk food consumption among Australian children: Trends and associated characteristics



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Background: An overall measure of children's junk food consumption may prove useful in the development of strategies aimed to prevent childhood overweight and obesity. The aims of this study were to (a) describe the development of a children's Junk Food Index (JFI); (b) summarise junk food consumption (c) examine the association between the JFI and health related behaviours and (d) examine change in JFI between 2010 and 2015 among children age 5 to 16 years.

Methods: Secondary analysis of the 2010 and 2015 New South Wales School Physical Activity and Nutrition Survey (SPANS). Data were collected by questionnaire with parent's proxy reporting for children in years K, 2 and 4 and

children in years 6, 8 and 10 self-report. Descriptive statistics and logistic regression analyses were conducted using SPSS Complex Sample Analyses.

Results: A total of 7565 and 6944 children had complete data on consumption of junk foods, in 2010 and 2015, respectively. The 2015 survey data showed that among students from high SES neighbourhoods, there were fewer high junk food consumers than low junk food consumers. Children from Middle Eastern cultural backgrounds had a higher junk food consumption, were more likely to consume take-away three or more times per week, ate dinner in front of the television, received sweet rewards, allowed to consume snacks anytime and had soft drinks available at home. There was a lower proportion of high junk food consumers in 2015 compared to 2010.

Conclusion: This is the first study to provide and examine an index summary of overall junk food consumption among Australian children. While junk food consumption reported among NSW school children is lower in 2015 compared with 2010, the public health workforce must continue their efforts, as levels of junk food consumption remains of concern among children from NSW and nationwide.

<https://doi.org/10.1016/j.orcp.2016.10.065>

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Feasibility of an online PEACH™ (Parenting, Eating and Activity for Child Health) Lifestyle program for parents of primary school children



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Delivery of the PEACH™ program to parents of primary school-aged children via face-to-face groups identified barriers to engagement, attendance and retention of families. This pilot study aimed to determine the feasibility of a modified PEACH™ program delivered online, PEACH™ Lifestyle. The 4-month program consisted of 3× 10-min videos, an introductory pack, a pre-session welcome phone call and 4× 1-h online group-based sessions (every 3 weeks). Sessions were facilitated by a trained PEACH™ Dietitian using the online platform "FLO (Flinders Learning Online)-Live" and between-session support provided through a private Facebook group. Participants completed