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Menu calorie counts likely linked to lower obesity-related cancer rates and healthcare costs

Thousands of cancers and deaths potentially averted and billions of dollars saved in US

Additional food industry product reformulation could substantially boost policy impact

Specifying the number of calories for each item on restaurant menus is likely linked to lower rates of cancers associated with obesity and attendant healthcare costs in the US, suggests a modelling study, published in the open access journal **BMJ Open**.

Thousands of cancer cases and deaths could potentially be averted and billions of dollars saved as a result of the policy, the figures indicate, prompting the researchers to suggest that additional food industry product reformulation could substantially boost its impact.

One in three Americans is obese, and obesity is an established risk factor for 13 types of cancer, note the researchers. Obesity-related cancers make up 40% of all newly diagnosed cases of the disease and 43.5% of cancer care costs.

Restaurant meals account for 1 in 5 calories consumed by US adults, and to help diners curb their calorie intake, the Affordable Care Act 2010 mandated that all chain restaurants with 20 plus outlets post calorie counts on menus and menu boards for all standard items.

Previously published research suggests that the policy would prevent a large number of cardiovascular disease and type 2 diabetes cases among US adults. But the health and economic impacts on obesity related cancers have not been evaluated.

The researchers therefore used The Diet and Cancer Outcome model (DiCOM) to estimate the impact of the policy on reducing obesity-related cancer rates and associated costs among 235 million US adults aged at least 20, over a simulated lifetime starting from 2015.

The model consists of 4 health states from healthy to death, taking account of the annual likelihood of changes in health plus the lifetime consequences of these changes on health outcomes and healthcare/societal costs, and drawing on several established national demographic, health, economic, dietary intake, and industry data sources.

US adults in 2015–16 had an average age of 48; almost two thirds were of non-Hispanic White ethnicity and 71% were overweight or obese.

Daily calorie intake from full-service or fast food restaurants averaged 332. But younger people (20–44) consumed an average of 425 calories/day, men 388, people of non-Hispanic black ethnicity 361, and those of Hispanic ethnicity 367.

Menu calorie counts were estimated to cut daily calories from restaurant food by an average of 24, and total daily calories by 12. Potential industry reformulation would reduce average intake by an additional 16 calories/day, and total calories by 8/day.

On the basis of consumer behaviour alone, the policy was associated with the prevention of 28,000 new cancer cases and 16,700 cancer deaths; 111,000 extra years of life lived in good health (QALYs); and US\$1.48 billion saved in related medical costs over an average monitoring period of 34 years.

The estimates indicated the greatest numbers of new cases averted were cancers of the endometrium (womb lining) (5700), liver (5180), kidney (5090), postmenopausal breast (4840), and pancreas (1400).

The greatest numbers of cancer deaths averted were for those of the liver (4530), postmenopausal breast (3080), endometrium (2060), kidney (1980), and pancreas (1230).

The policy was associated with net savings of, respectively, US\$1.46 billion and US\$1.35 billion in healthcare and societal costs.

Health gains and cost savings would likely be greater for young adults and people of Hispanic and Black ethnic backgrounds, the figures suggest.

Additional food industry product reformulation could substantially increase policy impact, say the researchers, with the total estimated health gains more or less doubling, preventing 47,300 new cancer cases and 28,200 cancer deaths, and gaining 189,000 QALYs.

“Given the nature of modelling research, this study does not provide a real-world evaluation of the impact of policy implementation on health and economic outcomes,” caution the researchers.

And they acknowledge that menu calorie counts might have a greater impact on people with higher incomes and higher educational attainment.

“We modelled only the impact of menu calorie labelling on calories, although the policy may also result in potential changes in the nutritional quality of the restaurant meals,” they add.

But they conclude: “Using the best available estimates, our study further suggested that the federal menu calorie labelling policy is cost-effective in the short term and cost saving in the long term in reducing obesity-associated cancer burdens.”