How 'modifiable' are 'modifiable risk factors' for cancer?

Christopher GCA Jackson, Diana Sarfati

Cancer is the leading cause of death in New Zealand and will continue to be so for the foreseeable future.[1,2] Early detection and improved treatment will incrementally reduce the impact of cancer on our community. However, the only meaningful way to reduce cancer incidence is by primary prevention. We know what many of these risk factors are—we simply lack the ability (or will) to influence their prevalence.

In this week's edition of *The Journal*, Richardson *et al* calculate the population attributable fraction for modifiable risk factors for colorectal cancer. The known modifiable risk factors are obesity, excess alcohol consumption, physical inactivity, red and processed meat consumption and cigarette smoking. They ask the question—what proportion of colorectal cancer diagnoses could be prevented by eliminating lifestyle factors known to be risks for the disease?

Richardson *et al* identify the relative contributions of six known risk factors to the overall incidence of colorectal cancer. They calculate that 9% of all cases are attributable to obesity, 7% to alcohol (>5 units per day), 4% to insufficient physical activity, 3% to smoking, 5% to consumption of red meat and 3% to processed meat.

A tempting (and incorrect) headline summary might be that 31% of colorectal cancer cases could be prevented by behaviour change. Tabloids could pronounce that nearly 1,000 new colorectal cancers would be prevented if we could curb the scourge of overindulgence, inactivity and excess. The attributable risks are not mutually exclusive, so the equation is not summative so this would be a statistically incorrect conclusion. In spite of this, touting individual responsibility for the cancer burden would be prime political fodder for those proposing that we should not take collective action nor a public health approach to reducing the impact of cancer in our community.

The unintended consequence of such reports is that the results could be used to "victim blame" those affected by cancer, initiating the insidious implication that those affected by cancer are somehow the authors of their own misfortune.[3] In turn, this can create a sense that there is a need for individual responsibility rather than collective action, encouraging inertia in an area where effort is required.

There is little doubt that the major modifiable risk factors for cancer in New Zealand are tobacco, alcohol, obesity, diet and physical inactivity, infectious diseases (such as Human Papilloma Virus and Hepatitis B) and UV exposure.

We already have many of the tools required to reduce the impact of cancer on our community. It will take collective action and political will to implement these.

Concerted efforts to reduce tobacco consumption have gradually worked. Currently, 15% of non-Māori and 35.5% of Māori are smokers—so there remains room for improvement.[4] This year has seen the introduction of plain packaging legislation. We have seen a commitment by the government to ongoing tax rises on tobacco. Counter to this, we have observed an expansion in the use of e-cigarettes. Although these can help some smokers quit, they can also result in re-normalisation of smoking behaviours and are thought to be gateway products for youth (particularly favoured varieties).[5,6] There remains work to be done on smoke-free cars, Māori-specific initiatives and reducing supply.[4]

From 1 January 2017, HPV vaccination will be fully funded for those aged 9–26,

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including boys and young men. Our current vaccination rates are approximately 61%, against a Ministry target of 90%.[7] Expanding vaccination uptake will remain a priority.

Our rates of melanoma and skin cancer are world-leading, yet our collective efforts to minimise sun and UV exposure do not reflect our incidence. Charities such as the Cancer Society continue to lead harm-minimisation efforts, but participation in the SunSmart Schools programme are only 35% nationwide. Many employers do not see sun exposure as an industrial danger in the same way that noise or dust pollutants are, and sunscreen is not as ubiquitous as ear-defenders for outdoor workers.

Other measures such as restrictions on alcohol availability, minimum alcohol pricing or increasing alcohol excise tax are more controversial. Proposed restrictions on alcohol stir a particularly strong community reaction against "nanny state" interventions. A well-funded lobby that stands to lose financially may well have incentives to resist public-health based control measures. If we wish to reduce the burden of cancer in our community, we will need to confront the uncomfortable truth about the relationship between alcohol and the incidence of common cancers.

One of the greatest challenges of this century will be managing the obesity epidemic. New Zealand has the fourth highest childhood obesity rate in the OECD.[8] The warning signs for cancer, as well as other diseases, are writ large. Mexico, the UK and several US states have introduced taxes on sugar-sweetened beverages. Whether this will have any long-term impact on obesity rates will be seen in time. Some schools and hospitals are already making policy decisions to exclude sweetened beverages from their on-site cafeterias. However, a more universal approach will be needed if we are to tackle the issue at a national level.

As doctors, we are familiar with the challenges of promoting behaviour change as primary or secondary prevention in our clinics. However, our influence and responsibility extends beyond the consultation room. We have the opportunity to promote healthy food and beverage choices in our own hospitals, sunsmart behaviours in our children's schools or at their sports days, advocating for increased shade areas with our public areas, and advocating to city councils as concerned citizens about smokefree outdoor spaces. As educated health professionals, our voices carry weight, and we need to ensure we are heard.

The challenge for political parties of all colours is to accept the reality that risk factors for cancer can be modified by a public health response. They must accept that individual responsibility is not a sufficient answer to the growing burden of cancer. We can and must follow an evidence-based approach to reducing the impact of known carcinogens. We must have the courage to build a platform of policies and to implement these even in the face of intense interest-group lobbying and unfavourable headlines. By continued inaction at the altar of personal choice, our leaders do not serve our communities well.

As medical professionals, we have the knowledge to contribute to a public debate and it is our duty to speak up and advocate for these policies so we can protect our community from future suffering and harm. We do not need to wait for a far off miraculous discovery to push back the tide of cancer.

We already know what we need to do. It's time to get on and do it.

Competing interests:

Dr Jackson is medical director of the Cancer Society of New Zealand. The views expressed in this editorial do not necessarily reflect the views of the Cancer Society.

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