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Diet, Cancer and NCD Prevention

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Food excites the passions. And recommendations about what constitutes healthy eating arouses passionate disagreement. Witness the outpouring of diet books or polemics declaring that conventional wisdom is quite wrong on one or other component of the diet. The general public can, rightly, feel confused if they perceive that experts disagree. World Cancer Research Fund International, WCRF, has issued its third report on the subject of diet and cancer; *Diet, Nutrition, Physical Activity and Cancer: a Global Perspective* is designed to go beyond such confusion.

I chaired the Panel that produced its predecessor, the Second Expert Report in 2007(1). In my Preface from the chair, I referred to the fact that experts *do* disagree. Science thrives on such disagreement. The purpose of these three reports is to go beyond clashes of opinion to reach considered judgement on what the evidence shows. It is almost quaint, in a world of post truth politics (2), to pay such close attention to evidence but science and public health require it.

Given that experts do disagree, it is reasonable to ask why one should trust the particular panel of experts who presided over production of the Third Expert Report. The straightforward answer is that they reviewed all the published evidence on diet, nutrition, physical activity and cancer; used criteria for establishing causation, agreed *a priori*; and deliberated, at length. A great deal of evidence has accumulated in the decade since publication of the Second Report and that evidence has been incorporated into the panel's deliberations.

In light of the new evidence, the similarity between the recommendations of the Third and Second Reports is reassuring for public health, for the general public and, I must confess, to the authors of the Second Report. The recommendations also fit with a body of evidence on the link between diet and other diseases. Most striking, of course, is the emphasis on body fatness: maintaining weight within the normal range and avoiding weight gain during adult life.

The fact that overweight and obesity are related to many cancers as well as to other diseases and all-cause mortality adds urgency to paying attention to the world's expanding waist line. And that waist line is alarming. The Third Report quotes estimates that, globally in 2016, 1.97 billion adults and over 338 million children and adolescents were overweight or obese (3). The increase is in low- and middle-income countries as well as high; increasingly, cancer is a burden in low- and middle-income countries as well as high. Physical activity has a clear role in preventing obesity; sedentary behaviour may have an additional role in promoting it. In addition, there is

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the possibility that physical activity may be directly protective against some cancer sites.

A key recommendation of this Third Report is to eat a diet rich in wholegrains, vegetables, fruit and beans; and limit consumption of 'fast foods' and other processed foods high in fat, starches or sugars (4). The Second Report had a similar recommendation but the underlying scientific conclusions differ in one subtle but potentially important way: the Third Report reached fewer conclusions on specific foods, instead emphasising pattern of eating. The Report suggests that patterns of diet and physical activity combine to create a metabolic state that may change the likelihood of acquiring genetic and epigenetic alterations that influence cancer risk. We will watch this space with interest.

One specific food that does not escape this change of emphasis is red and processed meat. The recommendations are: limit consumption of red meat to no more than about three portions (350-500g cooked weight) a week; consume very little if any processed meat (5). A similar recommendation in the Second Report occasioned pushback by the purveyors of meat who trotted out the usual: balanced diet, no specific foods are harmful. They will no doubt be stimulated to respond again. Not just passions, but commercial interests are at stake.

Control of non-communicable disease (NCD) is on the global agenda. Given that about one in six deaths globally is from cancer, this report adds to the scientific basis that NCD prevention is possible and must be a key part of global action on NCDs. Such global effort must include action on the social determinants of health which, among other actions, address social inequities in obesity and other causes of NCDs (6).

1. World Cancer Research Fund, American Institute for Cancer Research. *Food, Nutrition, Physical Activity, and the Prevention of Cancer: A Global Perspective*. Washington, DC.: AICR; 2007.
2. Marmot M. Post-truth and science
. *Lancet*. 2017;389(10068):497-8.
3. World Cancer Research Fund / American Institute for Cancer Research. *Diet, Nutrition, Physical Activity and Cancer: a Global Perspective. Continuous Update Project Expert Report 2018*. Available at dietandcancerreport.org
4. Ibid
5. Ibid
6. Mackenbach JP, McKee M, editors. *Successes and failures of health policy in Europe. Four decades of divergent trends and converging challenges*. Maidenhead: Open University Press; 2013.