

Rapid, Unprecedented Change for Human, Animal, and Environmental Health

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Abstract

Canadians are facing exciting opportunities to reverse harm. Many international reports call for rapid and unprecedented shifts to largely plant-rich diets. This delicious pathway serves to enhance health and helps Canadians to be more resilient in the face of infectious and non-infectious diseases while also reducing global warming and our climate crisis. The Canadian Association of Physicians for the Environment advise that improving dietary practices also protect ecological systems, and help stabilize food production, food security and sufficiency. The Canadian Medical Association (CMA) has identified climate change and its impact on health as a global health issue. According to the CMA, “physicians have a role to play in helping advance public understanding of the health consequences of climate change and supporting the development of public health responses”. This includes informing Canadians of Canada’s Food Guide that emphasizes plant-based foods. A plant-rich dietary approach is proven to prevent, manage, and can even reverse, many chronic conditions. Policies that improve food production, consumption, and food environments along with education that inspires healthy diets and lifestyles could offer protective effects against non-infectious diseases, and offer greater resilience to infectious diseases, like COVID-19. Adopting Canada’s Food Guide is a delicious way for Canadians to improve their health, reduce illness costs and contribute significantly to environmental well-being.

Introduction

Increasing plant-rich diets and reducing food waste, if adopted widely, could help reverse the climate crisis [1]. That is a large claim, but in fact the potential gains are even greater. As diets are a key policy lever, they should be designed to enhance human, animal and planetary health. The Canadian Association of Physicians for the Environment advise that not only does improving dietary practices protect ecological systems, such shifts become essential to ensure more stability in food production, food security and sufficiency. The Canadian Medical Association (CMA) has identified climate change and its impact on health as a global health issue. According to the CMA, “physicians have a role to play in helping

advance public understanding of the health consequences of climate change and supporting the development of public health responses.” Physicians like Dr. Zahra Kassam and Dr. Shireen Kassam, who organized Canada’s first plant-based nutrition conference [2], aim to re-direct health practices through emphasizing the evidence-based benefits of food as medicine. A growing movement of healthcare professionals from different disciplines and specialities, with expertise in Lifestyle Medicine, advise the use of a whole food, plant-predominant dietary approach to prevent, manage and reverse chronic disease, address the root cause of many non-infectious diseases that could significantly improve health and substantially reduce illness costs.

The reorientation to holistic, preventative health is proving to be a promising strategy and leading Lifestyle Medicine to becoming one of the fastest growing healthcare fields, as noted in the scientific literature [3].

Running Text

The CMA has joined the Canadian Public Health Association, and others, in highlighting the links between climate change and health and calling on federal, provincial and territorial governments to take action to prepare for and mitigate great adversity from climate change on Canadians. The past-president of CMA, Dr. Gigi Osler stated, “This is the public health imperative of our time” [4]. The Intergovernmental Panel for Climate Change has issued incisive reports calling for rapid and unprecedented changes to reduce the devastation arising from global warming and the destabilization from disruptions in weather patterns [5]. Several international bodies, have called for demonstrations of shared leadership from agriculture, health and environmental officials to replace destructive policies and practices with those that optimize human, animal and planetary health, like the Canadian Food Guide of 2019 [6], and the EAT–Lancet Commission on healthy diets from sustainable food systems [7].

Canadian food systems can supply adequate food in the near term while intermediate and longer time availability is more questionable [8]. We need more critical actions like more sustainable intensification of land-use practices, ecosystem restoration and less resource-intensive diets [9].

The EAT-Lancet Commission on Food, Planet Health [10], recommends greater adherence to healthier diets that would require a 200% increase in the production and consumption of fruits, vegetables, pulses and nuts and substantial reductions in production and consumption of red meat and added sugars. Transformations in agriculture are imperative. Several scientists recommend explicit actions in these precarious times [11].

- a. Declare a timeframe for peak livestock – the point of livestock production no longer increasing.
- b. Identify the largest emitters within the livestock sector and establish reduction targets.

- c. Support efforts to replace livestock with foods that minimize environmental impact while maximizing public health by applying a best available food strategy.
- d. These actions enable much needed repurposing of land as carbon sinks, and restoring native vegetation, wildlife, and biodiversity.

This is an urgent call on governments to make rational policy choices. The reduction of subsidies of animal sourced foods has become essential. A published November 2020 research paper in Science [12], indicates that, should governments and partners act quickly enough, there are many ways to effectively reduce food emissions, with the essential step of accelerating adoption of predominantly plant-based diets. Innovations need support around increasing crop yields while also educating and legislating to reduce food loss and waste. The Government of Finland has helped dairy farmers become berry farmers. It became known as the berry project, with many farmers on board. It helped achieve significant reductions in cardiac death by 80% and all-cause mortality by 45% throughout the country [13]. This meant the investments in agriculture paid off many fold in reduced illness costs and enhanced quality of life. In Scotland, the Rural Economy Secretary Ewing promoted low carbon agricultural practices, including organic practices, among other strategies to take advantage of the green economy. “Let me be clear though, achieving this will require every one of us to think about what you can do to ensure you play your part in transitioning to a net zero future” [14]. In the Netherlands, the Council for the Environment and Infrastructure, an advisory group to government made similar recommendations. “Giving farmers and parties in the value chain clarity about future emissions reductions will encourage them to bring forward innovations, develop new business models and/or shift their activities towards more plant-based food products” [15].

For Canada to achieve our goals for the Paris agreement, many actions are needed, including emphasizing plant-based diets. The global pandemic may have been catalytic in highlighting the true threat of Canadian food insecurity and insufficiency. It appears prudent that efforts would immediately be directed towards strategic investments to significantly increase Canadian production and consumption of healthy foods. Canada is

a leader in world pea production by producing more than a third and close to 40% of the world's lentil production. These, among many other products, are significant in the global pulse trade reaching beyond \$2.7 billion. (Pulses and Rural Development) [16]. To match the productivity gains made in cereal crops in recent decades, steady investment in systematic, streamlined pulse breeding programs are urgently needed and can build on existing scientific progress [17,18]. The majority of Canadians do not eat enough fruits and vegetables, and if Canadians ate more fruits and vegetables, improvements could be realized in health, environmental and social costs [19]. Yet if Canadians were to seek to meet their daily recommended amounts of plant-based foods, production levels in Canada would not be sufficient to meet these requirements.

Conclusion

Canada needs more multi-sector collaboration, including government investments, to ramp up plant-based production, infrastructure and processing. These targeted policies and practices in human, animal and planetary health will return rewards measured in well-being for decades to come.

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