

Food safety and technology Part 4 of 4

December 2024

☀ Where are we at?

As reported in Food Fax Q2 2024, the intent of the USA FDA's FSMA (Food Safety Modernization Act of 2011) and Canada's CFIA SFCA (Safe Food for Canadians Act of 2012) was to increase and sustain the safety of the food supply. Included was the admirable objective of a significant decrease in the number of public-sector managed food recalls. Recalls serve as a reliable indicator of the magnitude of food hazard outbreaks. As well, their prevalence reflects associated costs to society (healthcare, sick days), in addition to the administrative costs to the public sector and the implementation costs to the private sector. Yet, food recalls are akin to ambulance chasing. The regulatory bodies in each country were the first to admit that the steady increase in food recalls is not the best expenditure of taxpayers' dollars, nor use of the professional and scientific skill set of the agencies' human capital.

☀ What's in this handbasket and where is it going?

In 2024, the FDA issued [1,904 recalls](#) of food and cosmetics, the largest number since 2019. Focusing on food, IFSAC, a collaboration comprising the FDA, the USDA and the CDC, reports that four pathogens – *E.coli O157*, *listeria*, *campylobacter* and *salmonella* – are responsible for [2M cases of foodborne illnesses, annually](#), in the USA. In Canada, the CFIA averages [250 food recalls](#) per year. These figures hide the hundreds of thousands of individually purchased units of food, subsequently retrieved and either destroyed, or, in the case of mis-labelling of otherwise safe food, re-labelled and re-distributed, or, donated to charitable causes. In 2009, sufficient food safety related material existed to support the launch of the e-magazine [Food Safety News](#) which today blasts e-mail bulletins on a daily, worrisome basis.

☀ Food safety regime of a license holder

A FSMA & a SFCR license each require an effective Preventive Control Plan (PCP) to identify all hazards (chemical, biological, physical) to which a license holder's food may be susceptible, followed by interventions rigorously proven to prevent the hazard, or, reduce it to a non-harmful level.

☀ A cost or net benefit to society?

Both the FDA and the CFIA published a CBA (Cost Benefit Analysis) of their respective proposed food safety regime regulations. The FDA's [Regulatory Impact Analysis \(2018\)](#) shows a total annualized cost to domestic and foreign businesses of between US\$619 M and US\$975 M per year. When contrasted with an estimated 1M foodborne illness incidences per year at an average cost of US\$2 k each, the total annual foodborne illness cost of US\$2 B was not totally offset. Many stakeholders would likely agree that the benefit of a reduction in or eradication of foodborne illness could never be expressed only in monetary terms. The [CFIA's CBA \(2017\)](#) approach was limited to regulatory implementation factors only. Annualized societal value of C\$137 M including the traceability of food, licensing of businesses and consolidation of regulations was contrasted with an annualized societal cost of C\$138 M for regulatory enforcement measures, with a resultant net societal benefit of -\$C1 M. The FDA presented a more comprehensive and realistic analysis than that of the CFIA, in that the former attempted to harness the impact of unknown factors such as the level of industry uptake and effectiveness of each manufacturer's PCP.

☀ Particular corporate losses, anecdotal

A Canadian importer reported on a blog several months ago that they had lost some foreign ingredient suppliers due to the suppliers' inability or unwillingness to fulfill the required SFCR license PCP requirements. In another case, a processed food importer withdrew their multi-million-dollar business from the Canadian market when it was evident that they could not profitably comply with the CFIA's PCP enforcement. Is Canadian society as a whole better off with these departures?

☀ AI and other modern tech to the rescue

Number one in reach of the top food technology/food safety articles published in peer-reviewed scientific journals in 2024, garnering 7,000+ [full-text views \(!\)](#) is entitled [Making food systems more resilient to food safety risks by including artificial intelligence, big data, and internet of things into food safety early warning and emerging risk identification tools](#). Time is of the essence.