

EXPERT ELICITATION FOR ASSESSING THE RELATIVE RISK OF FOOD SAFETY CRITERIA TO BE INCLUDED IN THE CANADIAN FOOD INSPECTION AGENCY'S IMPORTER RISK ASSESSMENT (IRA) MODEL

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INTRODUCTION

In collaboration with experts from industry, academia and other government departments, the Canadian Food Inspection Agency (CFIA) has started the development of the Importer Risk Assessment (IRA) model – a quantitative, science-based risk assessment tool designed to evaluate the food safety risk associated with licensed food importers under the Safe Food for Canadians Regulations. This model represents an adaptation of the CFIA's Establishment-based Risk Assessment model for domestic food establishments, and considers the 12 risk factors with the greatest impact on the food safety risk of importers. These factors were identified and clustered (inherent, mitigation and compliance) based on a literature review and the consultation with the Scientific Advisory Committee (SAC). The goal of this study was to estimate the relative risk (RR) (weight) of the 49 assessment criteria used to evaluate all risk factors included in the IRA model by means of a structured expert elicitation.

METHODOLOGY

48 experts from academia, government and industry were identified through nominations made by the SAC and industry associations. Participants attended a 1 h webinar to cover the methodology, objectives and expectations. A secure online platform (Simple Survey) was used to create the questionnaire for experts, and this was available in English and French, along with other reference materials (e.g. glossary). The elicitation followed a virtual two-round Delphi approach. In the first round, experts had one week to attribute a RR to each assessment criterion, based on the significance of the increase (for inherent and compliance factors) or decrease (for mitigation factors) of the risk when a criterion is applicable to a specific importer, compared to another identical importer without this criterion in place, as regards food safety. After this period, aggregated results from the first round (e.g. median, interquartile range (IQR)) were shared with experts during the second round, and participants were invited to discuss their rationale or raise their disagreement, as

applicable. Experts were subsequently given one more week to re-evaluate their estimates, if needed.

RESULTS

A total of 41 experts participated in the study, including representatives from industry (52 %), government (35 %) and academia (13 %). The mean number of years of experience was 20 ± 11 . 54 % of them had a Master's degree as a minimum, and most experts assessed their own expertise as being high in food safety, risk assessment/management and food import practices. Experts working in the fields of food science and microbiology accounted for 63 % of the total participants. Preliminary results and histograms from the first round showed a good overall consensus ($IQR \leq 2.0$) in the estimates of the assessment criteria (RR) given by experts, considering a mean number of responses of 36 (± 0.9). The highest RR was assigned to compliance risk factors, including history of class 1 recalls, license cancellation, prosecution, and refusal to renew a license. Other risk factors that received a high RR included multiple non-compliances related to the import control programme and products being targeted at vulnerable populations.

DISCUSSION

Overall, experts assigned higher RRs to compliance factors compared to inherent and/or mitigation factors (i.e. most impactful on food safety risk), a trend that was observed present in other CFIA risk assessment models. Preliminary analysis after the first round also seems to indicate no differences between RR estimations based on the expert's background (academia, government, industry), yet this will be confirmed once all analyses are complete. While most questions were fully evaluated by experts, they agreed that the estimation process was challenging, especially when considering the presence of a risk factor independent of other factors (e.g. country of origin).

The second round of elicitation was finalised on 27 September and the final results will be aggregated and presented during the conference. The median RR obtained from this study will be used to build the IRA model algorithm to help allocate CFIA inspection resources based on the importer's level of food safety risk.