

Risk from *Listeria monocytogenes* in ready to eat smoked fish: Executive summary

Results available: Results available

Area of research interest: [Foodborne pathogens](#)

Authors: Food Standards Agency and Food Standards Scotland.

DOI: <https://doi.org/10.46756/sci.fsa.qel826>

Planned completion: 13 June 2022

Project status: Completed

Date published: 26 April 2023

It is acknowledged that the risk to vulnerable consumers (those with weakened immune systems) from consuming food contaminated with *Listeria monocytogenes* is higher than that for the general population. This is because vulnerable consumers are more likely to suffer from invasive listeriosis, a form of the infection associated with severe symptoms and high mortality rates. Ready-to-eat (RTE) smoked fish has been implicated as the food vehicle in a number of recent outbreaks of listeriosis, and this risk assessment was commissioned to provide evidence to support a review of the advice to vulnerable consumers on consumption of RTE smoked fish.

This risk assessment considered three categories of vulnerable consumers:

- pregnant women (and unborn and newly delivered infants),
- those aged over 65
- those who are considered immunocompromised due to a medical condition or treatment.

A risk characterisation with corresponding uncertainties is provided for both hot and cold smoked RTE fish.

The risk assessment concluded that there was not enough evidence to distinguish the risk presented to the three identified groups of vulnerable consumers. It also identified that although the prevalence of *L.monocytogenes* was lower for hot-smoked than cold-smoked fish, that hot-smoked fish could not be considered risk-free, either due to ineffective smoking or, more likely, recontamination from contaminated processing equipment after the hot-smoking step.

On the basis of the evidence presented, we consider the frequency of occurrence of invasive listeriosis in the vulnerable population from consumption of cold smoked fish to be low (for example, rare but does occur) and hot smoked fish to be very low (for example, very rare but cannot be excluded).

We consider the severity of illness in the vulnerable population from *L. monocytogenes* infections to be high (for example, severe illness: causing life-threatening or substantial sequelae or illness of long duration).

The level of uncertainty around the frequency of listeriosis in the vulnerable population from consumption of hot or cold smoked fish was considered to be medium to reflect several key uncertainties, namely: the difficulty in estimating the infectious dose for *L. monocytogenes* and how it differs between different vulnerable groups; the long incubation period which can make attribution to a specific food vehicle difficult; the initial level of contamination and how it multiplies

through the food chain; and consumer behaviour around use-by date and temperature abuse. The level of uncertainty for the severity of illness of listeriosis in the vulnerable population was considered to be low.