

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

Listeria monocytogenes is a foodborne pathogen which can cause invasive listeriosis, an infection associated with severe symptoms and high mortality rates, in those with weakened immune systems. These individuals may be considered to be vulnerable consumers with regard to this pathogen. Certain ready-to-eat foods (foods that are not expected to undergo cooking or any other treatment which would inactivate bacterial contamination present) can be a particular problem if they have characteristics that support the survival and growth of *Listeria monocytogenes*. Smoked fish is recognised as one group of ready-to-eat foods which has been associated with listeriosis infections. This risk assessment has been requested to advise a review of the advice for vulnerable consumers on the risk of eating ready-to-eat smoked fish.

The evidence compiled in this risk assessment comes from industry and academic publications, as well as national and international reports and surveys of prevalence and incidents involving *Listeria monocytogenes* and illness in vulnerable consumers. The risk assessment considers the hazard of *Listeria monocytogenes* including the conditions that facilitate contamination, survival and growth in food, and the manifestation of listeriosis, the disease this bacterium can cause in humans. It gives details of outbreaks of disease associated with smoked fish, and the prevalence of the detection of *Listeria monocytogenes* in smoked fish which is available to the consumer. Finally, it also considers the production of smoked fish, and routes of contamination, or control steps that may limit the presence of the pathogen in the final product.

We concluded that the frequency (likelihood) of occurrence of invasive listeriosis in the vulnerable population from consumption of cold smoked fish is low (for example, rare but does occur), from the consumption of hot smoked fish is very low (for example, very rare but cannot be excluded) and that the severity of illness from listeriosis in the vulnerable population is high (for example, severe illness: causing life-threatening or substantial sequelae or illness of long duration).

We also highlighted a number of uncertainties where complete data were not available, for example, the dose of *Listeria monocytogenes* required to make a vulnerable consumer unwell.