Balancing Choices: Supporting Consumer Seafood Consumption Decisions

In response to a request from the National Oceanic and Atmospheric Administration (NOAA), the Institute of Medicine of the National Academies reviewed evidence on the benefits and risks associated with seafood consumption to recommend ways to guide U.S. consumers in making seafood selections to meet their needs.

Eating seafood is associated with benefits that include reduced risk for heart disease among the population in general and possibly reducing risk for coronary heart disease among at-risk individuals. There may be additional benefits to infants of women who consume seafood during pregnancy such as improved cognitive and other developmental outcomes.

An increase in seafood consumption by Americans has also been accompanied by a growing awareness not only of the potential benefits but of exposure risks associated with eating seafood such as microbial contaminants, persistent organic pollutants, and especially contaminants like methyl mercury in oceans and inland waters. Thus, consumers are faced with a dilemma about how to obtain nutritional benefits from seafood balanced against exposure risks.

The study committee reviewed the evidence and developed models for consumer guidance in making seafood choices. The committee used a consumer-centered approach to develop models that focus on the decision and the decision-making context faced by consumers. Based on its balancing of the benefits and risks associated with selecting types of seafood, the committee developed a decision pathway that could be adapted for consumer guidance (Figure 1).

One of the challenges in supporting informed consumer choice is how federal agencies communicate health risks and benefits to consumers, especially to those who may be more vulnerable than the general population. To answer this challenge, the study committee developed different graphical illustrations (Figure 2 and Figure 3) as examples to show the trade-off relationships between the omega-3 fatty acid profiles of various types of seafood and their methyl mercury content. These sample graphics do not include a representation of uncertainty and agencies that develop consumer guidance should strive to report uncertainties to the extent possible. Testing is essential in developing any graphic to avoid unanticipated effects.
May benefit from consuming seafood, especially those with relatively higher concentrations of EPA and DHA.

A reasonable intake would be two 3-ounce servings (or for children, age appropriate servings) but can safely consume 12 ounces per week.

Can consume up to 6 ounces of white (albacore) tuna per week and should avoid large predatory fish such as shark, swordfish, tilapia, or king mackerel.

FIGURE 1. Example of Decision Pathway for Consumer Guidance.
NOTE: The wording in this figure has not been tested among consumers. Designers will need to test the effects of presenting information on seafood choices in alternative formats.
FIGURE 2. Example of estimated EPA/DHA (mg) intake and methylmercury (µg) intake exposure from one 3-ounce portion of seafood.

NOTE: The scales used in this figure for EPA/DHA and methylmercury content are arbitrary. Designers will need to carefully test the effect of the scales used for the bars on the message received by consumers.

* Cooked, dry heat
** Cooked, moist heat
*** The EPA and DHA content in Pacific salmon is a composite from chum, coho, and sockeye.
FIGURE 3. Estimated EPA/DHA (mg) intake and methylmercury (µg) intake exposure from one and two 3-ounce servings of seafood.
NOTE: The scales used in this figure for EPA/DHA and methylmercury content are arbitrary. Designers will need to carefully test the effect of the scales used for the bars on the message received by consumers.