

EPA's Roadmap for Mercury

IV. Communicating to the Public About Mercury Exposure Risks

July 2006



IV. COMMUNICATING TO THE PUBLIC ABOUT MERCURY EXPOSURE RISKS

OVERVIEW

While the Agency is pursuing regulatory and voluntary activities aimed at industrial reduction of mercury releases and uses, EPA will also increase its risk communication and outreach activities to help people avoid or reduce their exposure to mercury in the near term. The most common way people in the U.S. are exposed to mercury is by eating fish containing methylmercury (an organic mercury compound). Consumption of fish with higher methylmercury levels can lead to elevated levels of methylmercury in the bloodstream of unborn babies and young children and may harm their developing nervous system.¹ The primary tool for reaching and educating affected populations has been through fish consumption advisories issued by states, tribes, and FDA. For example, in March 2004, EPA and FDA issued a joint federal fish consumption advisory for mercury in fish and shellfish that helps consumers understand the benefits of fish consumption, the risks of consumption to certain sub-populations (e.g., groups with routinely high consumption), and mercury levels in certain fish.



Fish and shellfish are an important part of a healthy diet, since they contain high quality protein and other essential nutrients, are low in saturated fat, and contain omega-3 fatty acids. A well-balanced diet that includes a variety of fish and shellfish can contribute to heart health and children's proper growth and development. Research shows that most people's fish consumption does not cause a health concern.

EPA and FDA have issued fish consumption advice to help consumers understand the connection between the benefits of fish and possible risks of methylmercury

**What You Need to Know About
Mercury in Fish and Shellfish**

**U.S. Food and Drug Administration and
U.S. Environmental Protection Agency
Advice for**

Women Who Might Become Pregnant, Women Who Are
Pregnant, Nursing Mothers, and Young Children

1. Do not eat:
 - Shark
 - Swordfish
 - King Mackerel
 - Tilefish

They contain high levels of mercury.

2. Eat up to 12 ounces (2 average meals) a week of a variety of fish and shellfish that are lower in mercury.
 - Five of the most commonly eaten fish that are low in mercury are shrimp, canned light tuna, salmon, pollock, and catfish.
 - Another commonly eaten fish, albacore ("white") tuna has more mercury than canned light tuna. So, when choosing your two meals of fish and shellfish, you may eat up to 6 ounces (one average meal) of albacore tuna per week.
3. Check local advisories about the safety of fish caught by family and friends in your local lakes, rivers and coastal areas.

If no advice is available, eat up to 6 ounces (one average meal) per week of fish you catch from local waters, but don't consume any other fish during that week. Follow these same recommendations when feeding fish and shellfish to your young child, but serve smaller portions.

For more information, please visit:
www.epa.gov/waterscience/fishadvice/advice.html
(See full text of Joint Fish Advisory in Appendix A)

exposure. Elevated methylmercury in the blood stream of unborn babies and young children may harm the nervous system, impairing the child's ability to learn and process information. Certain sub-populations may be at higher risk than the general population because of their routinely high consumption of fish and

shellfish (e.g., tribal and other subsistence fishers and their families who rely heavily on locally caught fish for the majority of their diet).

Although people are exposed to methylmercury via the dietary route, there are also some non-dietary sources of mercury exposure. Many consumers are not aware that mercury has been used for years in common household products such as thermostats. Releases from the manufacture of mercury-containing products and inappropriate disposal of these products have contributed to mercury entering the environment and ultimately the food chain. Misuse of or accidental breakage of some products can create indoor air health risks and expose consumers to dangerous levels of mercury. In addition, certain cultural or religious uses of mercury may also result in harmful mercury exposure. The number of individuals exposed in the U.S. in this way is very small.

The Agency will make it a priority to provide consumers with reliable risk information about mercury exposure so that they can make informed choices about the fish they eat and the products they use.

Progress to date. EPA has directed most of its mercury risk communication activities toward raising awareness about dietary practices. The FDA-EPA national advisory, *What You Need to Know About Mercury in Fish and Shellfish*, provides advice for women who might become pregnant; women who are pregnant; nursing mothers; and young children.² This advisory represents the first time FDA and EPA have combined their advice into a single uniform advisory. During the summer and fall of 2004, the two agencies distrib-

uted brochures about the advisory to approximately 200,000 medical providers in the U.S.

In September 2005, EPA sponsored the Eighth Annual National Forum on Contaminants in Fish (“Fish Forum”). The forum provided an opportunity for people who have an interest in the subject of advisories, from both the public and private sectors, to discuss scientific and policy issues, risks and benefits, and communication strategies associated with exposure to chemical contaminants in sport- and subsistence-caught fish and shellfish. In September 2005, the 13th straight year, EPA released its National Listing of Fish Advisories, a summary of information on locally-issued fish advisories and safe-eating guidelines.³ This information is provided to EPA annually by states, territories, and tribes.

States and tribes issue fish consumption advisories if elevated concentrations of chemicals such as mercury are found in local fish. States monitor their waters by sampling fish tissue for persistent pollutants that bioaccumulate. States issue their advisories and guidelines voluntarily and have flexibility in what criteria they use and how the data are collected. As a result, there are significant variations in the number of waters tested, the pollutants tested for, and the threshold for issuing advisories. Based on self-reporting, the national trend is for states to monitor different waters each year, generally without retesting waters monitored in previous years.⁴ As new waters are tested and results are added to previous years’ findings, the number of fish advisories continues to rise. EPA makes information on the fish advisories, as well as Fish Forum proceedings, easily accessible to the public on its website.

Although most of EPA’s risk communication efforts have been directed to increasing awareness of mercury in the food chain, the Agency has also investigated non-dietary sources of mercury exposure about which the public should be aware. Risk communication has been conducted in conjunction with mercury reduction activities, such as school clean-outs or thermometer collection programs. In many cases, critical mercury outreach to schools and communities would not otherwise occur without EPA assistance. For example, EPA’s Region 6 has identified a particular need for such support in communities on the U.S./Mexico border.

EPA’s national efforts on mercury risk communication have been aimed at making information widely available to the public and at co-sponsoring national conferences that bring together people from across the country to share information on mercury risk communication. A unique exposure concern is raised by ritualistic use of mercury in certain cultural communities. For this reason, in January 1999, EPA and the U.S. Agency for Toxic Substances and Disease Registry



(ATSDR) convened the Task Force on Ritualistic Uses of Mercury to recommend an appropriate course of action regarding the use of elemental mercury as part of certain folk practices and religious traditions. The Task Force prepared a report in 2002 which recommended approaches that rely primarily on community outreach and education activities to inform mercury suppliers and the public about mercury's risks, and encourage the use of safer alternatives.⁵

In January 2005, EPA launched its consolidated website on mercury, www.epa.gov/mercury.⁶ This new website, organized by subject matter and geographic region, provides one location to find information about mercury in a useful format for the American public. Because the most effective mercury risk communication activities will be carried out at the state and local level, another important contribution to mercury risk communication is the provision of grants, cooperative agreements, and other types of funding for state, tribal, and local mercury risk communication activities.

States, tribes, and local governments have also conducted outreach activities in conjunction with most of the mercury collection programs mentioned in Sections I and II on addressing mercury releases and uses in processes and products. In order to get a high rate of participation in these voluntary programs, it is important to educate the public on the risks of mercury exposure, the need for proper disposal of mercury-containing products, and the availability of safe, non-mercury alternatives. For example, in an innovative project, the state of Minnesota trained a dog to locate mercury in buildings by sense of smell. Minnesota's Mercury-Free Zone Program is modeled after a Swedish

program that uses dogs to detect mercury in schools.⁷ Schools that take the mercury-free pledge are eligible to receive a visit from Clancy the mercury dog. Clancy has received media coverage which has raised general awareness of the dangers of mercury and the need to dispose of mercury responsibly. States, tribes, and local governments are in the best position to develop material tailored to local populations. For example, the state of Washington is using an EPA grant to conduct a survey of fish consumption among Asian/Pacific Islander populations in the Puget Sound region. As part of this project, the state will identify community groups to educate these populations in a culturally sensitive manner by tailoring messages and translating documents.

Future focus. As long as mercury is present in the environment and in food and consumer products, consumers will need reliable risk information about mercury exposure; about making informed choices regarding the benefits of fish consumption, the risks of consumption for certain groups, and mercury levels in certain fish; and about the purchase, use, and disposal of mercury-containing products and mercury-free alternatives. EPA will continue to provide support for national and local outreach and education programs on the effects of mercury and consumer choices. EPA will also support risk communication and outreach efforts about mercury through its international activities and programs.

Priority Activities for Mercury Risk Communication

- **Continue Assistance in Implementing Fish Advisories** – EPA will continue to work closely with FDA to implement the 2004 joint EPA-FDA national fish advisory for methylmercury across the

U.S. EPA will also work with FDA to continue targeted outreach efforts to the U.S. medical community to provide information on dietary risks of methylmercury exposure, and ways that medical professionals can help patients and their families reduce exposure to mercury while maintaining a healthy diet. EPA will continue to assist the states and tribes with development and communication of their fish advisories through the National Forum on Contaminants in Fish (held every 15-18 months), updating of risk communication guidance documents, and updating the National Listing of Advisories.

Timeline: Ongoing; Biennial Fish Forums

- **Maintain Centralized Mercury Portal Website** – EPA will provide up-to-date information on all aspects of the risk of mercury exposure through food consumption and product use by maintaining its electronic Mercury Portal Website, which will be EPA's primary mechanism for communicating with the public about mercury.
Timeline: Ongoing
- **Assist State, Tribal, and Local Government Mercury Outreach Activities** – EPA will continue to assist and support state, tribal, and local government efforts to conduct mercury risk communication and outreach, research and mitigation activities addressing important routes of mercury exposure, and actions that can be taken by individual consumers to reduce mercury exposure and pollution. **Timeline:** Ongoing
- **Outreach Activities to Consumers on Mercury-containing Products and Mercury-free Substitutes for Use in**

the Home – Building upon the information already available from states and other groups about consumer products that contain mercury, EPA will develop an inventory of mercury-containing products and mercury-free substitutes. EPA will also identify information gaps. EPA will make the information available on its website.

Timeline: 2006

- **Outreach to Health Professionals and Health Care Associations** – Health professionals are an important partner in the dissemination of mercury risk information. EPA is working to educate health professionals about a variety of children's environmental health issues, including mercury. For example, EPA is coordinating an interagency effort to work with the Pediatric Environmental Health Speciality Units to provide pediatric consultative services covering mercury and other key concerns for children's environmental health. EPA will also partner with health care associations and universities to disseminate mercury risk information and increase proper mercury disposal in health care facilities. Through the Hospitals for a Healthy Environment (H2E) program, EPA and its regions will continue to work with universities to educate future health professionals in proper disposal of chemicals in hospitals.
Timeline: Ongoing
- **Outreach to Schools on the Need to Remove Mercury** – As part of its national project to work with science teachers, curriculum developers, facilities managers, and pollution prevention professionals to promote mercury reduction in schools, EPA will work to make school officials and staff

aware of the risks of exposure to mercury and the availability of mercury-free alternatives. This includes the use of software to educate school decisionmakers about potential environmental hazards in schools and ways to reduce them. **Timeline: Ongoing**

- ***Conduct Public Awareness Evaluation for Dietary Issues*** – To better educate the U.S. public on how to make informed dietary choices, FDA, with assistance from EPA, is conducting surveys to evaluate how well the U.S. public understands the effects of methylmercury exposure from eating certain fish and shellfish. **Timeline: Surveys conducted and completed during 2006/2007**