Testing of seafood imported into the US is inadequate

November 9 2011

Finfish, shrimp, and seafood products are some of the most widely traded foods and about 85 percent of seafood consumed in the U.S. is imported. A new study by researchers from the Johns Hopkins Center for a Livable Future at the Bloomberg School of Public Health shows that testing of imported seafood by the U.S. Food and Drug Administration (FDA) is inadequate for confirming its safety or identifying risks.

The findings, published this month in Environmental Science and Technology, highlight deficiencies in inspection programs for imported seafood across four of the world's largest importing bodies and show which types of aquatic animals, and from which countries, are most often failing inspection. The study identified a lack of inspection in the U.S. compared to its peers: only 2 percent of all seafood imported into the U.S. is tested for contamination, while the European Union, Japan and Canada inspect as much as 50 percent, 18 percent, and 15 percent of certain imported seafood products. When testing in the U.S. does occur, residues of drugs used in aquaculture, or "fish farms," are sometimes found; above certain concentrations, these drugs are harmful to humans.

David Love, PhD, lead author of the study, and colleagues at the Johns Hopkins Center for a Livable Future, acquired data on seafood inspection programs from governmental websites and from direct queries to governmental bodies. They analyzed the number of violations of drug residue standards as a function of species of aquatic animal, exporting country, drug type, import volume and concentration of

residue.

Their findings indicate there is an insufficient body of data for evaluating the health risks associated with drug residues in U.S. seafood imports. "Data made accessible to the public by the FDA precludes estimation of exposures to veterinary drugs incurred by the U.S. population," said Keeve Nachman, PhD, a study co-author. Researchers encountered a lack of transparency in U.S. testing protocol and policy. One example of the FDA's opacity is that its public records do not specify when fish pass inspection or whether testing was performed on random samples or targeted samples; these distinctions are critical to accurate assessment of the prevalence of the drug residues.

Love and colleagues' results showed that the FDA tests for 13 types of drug residues, in contrast to inspection agencies in Europe and Japan that test for 34 and 27 drugs, respectively. This discrepancy suggests that seafood producers can use many drugs for which the U.S. does not screen. Based on the authors' findings of drug residues, it can be surmised that veterinary drugs are continuing to be used in aquaculture from developing countries, which can lead to adverse health consequences, including the development of antibiotic-resistant bacteria on fish farms and their spread in seafood products.

Imports to the U.S., E.U., Canada and Japan with the highest frequency of drug violations were shrimp or prawns, eel, crabs, catfish or pangasius, tilapia and salmon. Vietnam, China, Thailand, Indonesia, Taiwan, India, and Malaysia were identified as the exporters to the U.S., E.U., Canada and Japan with the most drug violations.

According to Love, "Consumers should be familiar with the country-of-origin and whether the animal was wild-caught or farm-raised." Love admits, "Fortunately, this information has been listed on all raw or lightly processed seafood products in grocery stores since 2005,

following the Country of Origin Labeling (COOL) law."

"Imported seafood may carry risks in terms of food safety because the FDA does not have the resources to proactively and regularly inspect foreign facilities, and it relies on product testing as a last resort," said Love. To minimize the risks of seafood imports and to raise U.S. testing standards to match those of other countries, the authors recommend that the FDA budget be expanded to allow for more exhaustive testing and hiring of more inspectors.

More information: The paper, "Veterinary drug residues in seafood inspected by the European Union, United States, Canada, and Japan from 2000 to 2009," was published online ahead of print in *Environmental Science and Technology*.

Provided by Johns Hopkins University Bloomberg School of Public Health