

Concern grows over pet pills and products, as well as those of owners

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(Phys.org) —Scientists have long been aware of the potential environment impacts that stem from the use and disposal of the array of products people use to keep themselves healthy, clean and smelling nice. Now a new concern is emerging – improper disposal of pet care products and pills.

Dog shampoos, heartworm medicine, flea and tick sprays, and a plethora of prescription and over-the-counter medicines increasingly are finding their way into landfills and waterways, where they can threaten the health of local watersheds. An estimated 68 percent of American households have at least one pet, illustrating the potential scope of the problem.

How bad is that problem? No one really knows, according to Sam Chan, a watershed health expert with the Oregon Sea Grant program at Oregon State University.

But Chan and his colleagues aim to find out. They are launching a national survey (online at: tinyurl.com/PetWellbeingandEnvironment) of both [pet owners](#) and veterinary care professionals to determine how aware that educated pet owners are of the issue, what is being communicated, and how they dispose of "pharmaceutical and personal care products" (PPCPs) for both themselves and their pets. Pet owners are encouraged to participate in the survey.

"You can count on one hand the number of studies that have been done

on what people actively do with the disposal of these products," Chan said. "PPCPs are used by almost everyone and most wastewater treatment plants are not able to completely deactivate many of the compounds they include."

Increasingly, Chan said, a suite of PPCPs used by pets and people are being detected at low levels in surface water and groundwater. Examples include anti-inflammatory medicines such as ibuprofen, antidepressants, antibiotics, estrogens, the insect repellent DEET, and ultraviolet (UV) sunblock compounds.

Some of the impacts from exposure to these products are becoming apparent. Fish exposed to levels of antidepressants at concentrations lower than sewage effluence, for example, have been shown to become more active and bold – making them more susceptible to predation, noted Chan, an OSU Extension Sea Grant specialist.

"Triclosan is another concern; it is a common anti-microbial ingredient in soaps, toothpaste, cosmetics, clothing, cookware, furniture and toys to prevent or reduce bacterial contamination for humans and pets," Chan said. "It is being linked to antibiotic resistance in riparian zones, as well as to alterations in mammal hormone regulation – endocrine disruptor – and impacts on immune systems."

Another common endocrine disruptor, the researchers say, is coal tar, a common ingredient in dandruff shampoo for humans, and pet medicines for skin treatment.

Jennifer Lam conducted a preliminary survey of veterinary practitioners as part of her master's thesis at Oregon State University and found awareness by veterinary professionals of the environmental issues caused by improper disposal of PPCPs was high. Yet many did not share that information with their clients.

In fact, veterinarians only discussed best practices for disposal with their clients 18 percent of the time, her survey found.

"The awareness is there, but so are barriers," Lam said. "Communicating about these issues in addition to care instructions takes time. There may be a lack of educational resources – or a lack of awareness on their availability. And some may not think of it during the consultation process."

The National Sea Grant program recently partnered with the American Veterinary Medicine Association to promote the reduction of improper PPCP disposal. The national survey is a first step in that process.

"Most people tend to throw extra pills or [personal care products](#) into the garbage and in fewer instances, flush them down the drain," Chan said. "It seems like the right thing to do, but is not the most environmentally friendly method for disposing unused or expired PPCPs. Waste in landfills produce leachates and these contaminants may not be fully deactivated by current wastewater treatments. They can get into groundwater and streams, where they can cause a variety of environmental problems and create a health risk as well."

When disposing of expired or unneeded medications, the researchers say, don't flush them. Instead, take them to a drug take-back event or depository. New rules to be implemented by the U.S. Drug Enforcement Agency (DEA) later this fall will make drug take-back options more available.

Chan and Lam suggest that in areas where take-back options are not available, people should mix unused or unwanted drugs with coffee grounds or kitty litter – something that will be unpalatable to pets. Then put the mixture in a sealed container and deposit it in the trash.

Results from the [national survey](#) led by Oregon Sea Grant will provide much-needed information to guide education, watershed monitoring and improvements on ways to reduce PPCP contamination and their environmental impacts.

More information: The survey is available online:
tinyurl.com/PetWellbeingandEnvironment

Provided by Oregon State University

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