Drug disposal can be tricky

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Getting rid of a television, a gallon of kerosene or a set of tires in an environmentally friendly way can be done with relative ease in most states.

But that small bottle of expired pills your doctor prescribed a few years ago? That's a bit more difficult.

Efforts are under way to make it easier to properly dispose of unused medicine as more officials see pharmaceuticals as a potential threat to drinking water. But free take-back programs are still relatively scarce.

Some of the larger chain pharmacies, like Rite Aid and Walgreens locations, sell $3 envelopes that customers can use to send their medicine to a special disposal facility to be incinerated. Some hospital pharmacies will accept unused medicine, but many don't advertise the fact. And although some government agencies and police departments have collections - in New Jersey, the federal Drug Enforcement Agency took in 7 tons of prescription drugs in a take-back event in 2010 - many are held on just one or two days a year.

Although trace amounts of prescription drugs have been found in drinking water across the nation there is still debate among government agencies over exactly how medicine should be disposed.

The federal Food and Drug Administration recommends flushing more than two dozen drugs to reduce accidental use or illegal abuse. The state Department of Environmental Protection opposes flushing, but

recommends throwing them out in the trash, which one water utility executive says just pushes the problem into the future.

In 2008, federal researchers found traces of heart medicine and the mood-stabilizing carbamazepine at the Passaic Valley Water Commission's drinking water treatment plant in New Jersey. The water, drawn from the Passaic River, also had caffeine, codeine and three other drugs.

No one knows how dangerous this is.

"The amount that constitutes a threat has not really been determined at this point," said Karen Fell, assistant director of water supply operations for the DEP. "It's not believed to be a threat, but this is an ongoing process. There are a lot of studies looking at this."

Researchers at water utilities are looking for way ways to filter pharmaceuticals from drinking water using membranes and carbon filters, but it's difficult. No single treatment can remove them all because of a wide array of chemical structures and properties, according to the American Water Works Association, a trade group for water utilities.

The best way to deal with the problem right now is to make sure drugs are properly disposed of so they don't have the chance to get into the water supply, said Rich Henning, a spokesman for United Water, which serves 800,000 people in Bergen and Hudson counties in New Jersey. The utility recently partnered with two of the area's pharmacies for a take-back program.

"This is a way to stop it before it becomes a bigger problem," Henning said.

Miller's Pharmacy in Wyckoff, N.J., began accepting unused medication

about a year ago. It's caught on with customers. The drugstore has sent 12 large boxes to be incinerated, with the leftover ash buried at a hazardous waste landfill.

Owner David Miller expects to take in more now that President Obama signed a federal law that will allow pharmacies to collect controlled substances such as narcotics.

"We get one or two customers a day looking to give back their medicine," Miller said. "It's been very popular."

Not everyone is onboard.

In an April newsletter called "How to Dispose of Unused Medicines," the FDA uses the fentanyl patch, a strong painkiller, as an example of a drug that should be flushed because much of the narcotic is still on the patch after use. The FDA says most drugs enter water systems after they are taken. Most are not fully absorbed and pass into the environment through urine.

New Jersey has had rules for properly disposing of infectious agents, organs, blood, syringes and other regulated medical waste since the late 1980s when this type of medical waste started washing up on the state's beaches. But it has no regulations governing disposal of unused medicine, whether from a household or from a health care facility such as a hospital, doctor's office or nursing home.

The DEP's recommendations are geared more toward avoiding accidental or intentional reuse. While the DEP advises against flushing medicine down the toilet, it offers step-by-step instructions to dilute pills with water in its original container and then mix in dirt, cat litter or some other "undesirable substance." It then suggests hiding the container in the trash.

The DEP says this method promotes a "healthy aquatic environment."

Henning says the DEP's method falls short of ensuring safe drinking water.

Putting it in the trash means it will wind up in a landfill. When rainwater infiltrates landfills and garbage decomposes, a liquid called leachate is formed. Leachate is supposed to be sucked out of landfills and treated at wastewater facilities.

But that presents two possible problems.

One, most wastewater treatment plants are not equipped to filter pharmaceuticals. They are built to remove conventional pollutants like small solids and biodegradable organic compounds.

Two, not all leachate winds up at treatment facilities. Some of it leaks directly into waterways.

DEP officials say pharmaceuticals in leachate are not a major threat to water quality.

"The chance that it would leach from a well-constructed and maintained landfill is not high," said Larry Hajna, a DEP spokesman.