

# Overview of the Unwanted Medicine Disposal Issue





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Prescription drug use is increasing significantly in quantity and types. In 2008, the total sales for prescription drugs reached \$291.5 billion, a 1.4 percent increase from the previous year.<sup>1</sup> At the same time, antibiotics, anti-convulsants, mood stabilizers, and hormones have been detected in the drinking water supplies of 24 major metropolitan areas.<sup>2</sup>

Although the exact risk to humans from low levels of pharmaceuticals has yet to be determined, the presence of so many varied prescription drugs and over-the-counter medicines is a cause for growing concern, especially when coupled with the fact that more and more medications are being prescribed. And, these medicines have been shown to harm fish and other aquatic wildlife, according to the U.S. Geological Survey.

So how do these chemicals get into the environment? One source is direct outflow to water from wastewater treatment plants. When medicines expire or are no longer wanted, people often flush them away. Wastewater treatment plants were never designed to remove these chemicals. Unwanted medicines that are flushed can also kill beneficial waste sewage bacteria and damage septic systems.

Another possible source is from the sludge of wastewater treatment plants and the manure from medically-treated domestic animals. Sludge is typically applied to farmland as a soil amendment and might be a source of contamination of groundwater and runoff. Veterinary treatment on fish farms and direct runoff from livestock farms might be another source.

When people throw medicine in the trash, there can be a risk of leakage from old or poorly designed landfills. Even non-leaking landfills represent a potential source, since water from them is often pumped out and is usually treated by the municipal wastewater system.<sup>3</sup> What's more, when people place medicines in the trash without taking precautions to secure the container, disguise the content, or make the medicine inedible, this can result in children and pets being unintentionally poisoned.

The concern for proper disposal of unwanted medicine ties in closely with another growing problem. "Nearly seven million Americans are abusing prescription drugs—more than the number who are abusing cocaine, heroin, hallucinogens, Ecstasy, and inhalants, combined. That 7 million was just 3.8 million in 2000, an 80 percent increase in just six years. **Nearly 1 in 10 high school seniors admits to abusing prescription painkillers.** Approximately 40 percent of teens and an almost equal number of their parents falsely believe abusing prescription painkillers is safer than abusing "street" drugs."<sup>4</sup> Through the multifaceted service-learning program, presented in *The Medicine Chest*, youth will be empowered to take action that will serve as a catalyst to help reduce teenage drug abuse.

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<sup>1</sup> Ruiz, Rebecca. "America's Most Medicated States." *Forbes.com*, 31, August, 2009

<http://www.forbes.com/2009/08/17/most-medicated-states-lifestyle-health-prescription-drugs.html>

<sup>2</sup> Donn, Jeff et al. "AP Probe Finds Drugs in Drinking Water." *Associated Press*. 10 March, 2008.

<sup>3</sup> K. Barnes, et al. Spring 2004 "Pharmaceuticals and Other Organic Waste Water Contaminants Within a Leachate Plume Downgradient of a Municipal Landfill" *Ground Water Monitoring and Remediation* 24, No.2, pages 119-126.

<sup>4</sup> Drug Enforcement Administration. 2009. "Prescription Drug Abuse—A DEA Focus." Online at [www.usdoj.gov/dea/concern/prescription\\_drug\\_fact\\_sheet.html](http://www.usdoj.gov/dea/concern/prescription_drug_fact_sheet.html).