

## What's the Issue?

Safe methods of disposal are needed for expired or unwanted medicines. Products of concern include prescription and over-the-counter medications. Improper disposal of medicines presents both a public safety and environmental hazard and wastes millions of health care dollars annually.<sup>1</sup>

## Why is Medicine Disposal a Concern?

The three main hazards are:

1. Possible poisoning from accidental ingestion, particularly among young children and pets, if medicines are thrown in the trash.
2. Illegal use or theft, including identity theft, from discarded containers providing personal patient information.
3. Contamination of water resources, which can result in reproductive and developmental problems in fish and other aquatic wildlife if medicines are flushed or placed in the trash.

<sup>1</sup> Daughton, C. (2003). "Cradle to Cradle Stewardship of Drugs for Minimizing Their Environmental Disposition While Promoting Human Health—Rationale for and Avenues Toward a Green Pharmacy". *Environmental Health Perspectives*. 111 (5): 757-774.

## Other Resources

- *Disposal of Unwanted Medicines* resource kit from IL-IN Sea Grant  
[www.iisgcp.org/unwantedmeds](http://www.iisgcp.org/unwantedmeds)
- U.S. Environmental Protection Agency the potential environmental impacts of pharmaceuticals:  
[www.epa.gov/ppcp](http://www.epa.gov/ppcp)
- U.S. Geological Survey research on the presence of pharmaceuticals in the environment:  
<http://toxics.usgs.gov/regional/emc/>



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# Unused and Expired Medicines

How to reduce pollution and prevent poisoning



## How do Pharmaceuticals Enter the Environment?

Pharmaceuticals have been found primarily in discharge from wastewater treatment plants and surface waters. Pharmaceuticals are also released into waterways via runoff from commercial animal feeding operations and aquaculture, and from fields where manure and biosolids have been applied.

## How Can Medications Impact the Environment?

Expired or unwanted medicines, if flushed down the toilet or drain, are a source of pollution in wastewater. Because sewage treatment plants are not designed to deal with drugs, these chemicals can be released into streams, lakes, and groundwater and affect fish and other aquatic wildlife.

You might imagine that any substance safe enough for humans and pets to ingest as medication can't cause environmental harm. But that may not be the case. If our medicines are reaching streams, rivers, and lakes, organisms living in these habitats may be *continuously* exposed to these drugs. Some aquatic organisms living in waters downstream from wastewater treatment plants are showing signs of developmental and reproductive problems. Researchers are working to determine whether pharmaceuticals are causing these effects.

## Disposal Dos and Don'ts

### Do:

1. Return unwanted/expired medicines to pharmacies and other locations participating in take-back programs.
2. Take to household hazardous waste collection sites, if permitted in your state.
3. Ask your physician and pharmacist for advice on how to dispose of your unwanted or expired medicines.
4. Check your state's guidelines on medicine disposal.



### Do Not:

1. Flush down the sink or drain.
2. Place in the trash.
3. Give or sell to others.



## How Can I Reduce the Quantity of Unwanted Medications in my Home?

1. Purchase only as much as you need and take the medication as prescribed by your physician.
2. Centralize all medications in one location secured from children and pets. This may help to limit inadvertent over-purchasing of products you already have.
3. In order to preserve the quality of your medicines, store medications at proper temperature and humidity as recommended on the label. This is sometimes NOT in the bathroom medicine cabinet.
4. Say "No" to physician samples if you are not going to use them.

