



# Unused, Unnecessary & Expired Meds: Why Do We Care?

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*April 2017*

# Why Do We Care?



- Prescription medications, over-the-counter drugs, and supplements are important and in very common use
- When medications change, stop, or are outdated, proper disposal is needed
- Unused and unwanted medications can lead to poisoning, abuse, or unwanted environmental impacts
- Operation Medicine Cabinet programs are designed to limit improper disposal and potential for abuse

**OPERATION MEDICINE CABINET**  
**FREE Medicine Collection Event**





# What Kinds of Direct Dangers Exist?



**National Institute  
on Drug Abuse**

*The Science of Drug Abuse & Addiction*



- Common classes: painkillers, sedatives, sleep aids, steroids, antidepressants, antianxiety medications, stimulants
- Prescribed drugs and other medications stored when expired or unwanted can be a source of **poisoning** to children or others who are unaware of their dangers (*all of the above*)







- Prescribed drugs and other medications stored when expired or unwanted can be subject to **abuse** by others (*e.g., opiates, antianxiety medications, stimulants*)
- Prescribed drugs and other medications stored when expired or unwanted can be source of **danger by burglary and physical injury** (*several of the above*)
- Prescribed drugs and other medications stored when expired or unwanted can be source of **environmental concerns** (*several of the above*)



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## Last stop for trash: A Landfill



# How Do They get Into the Environment?

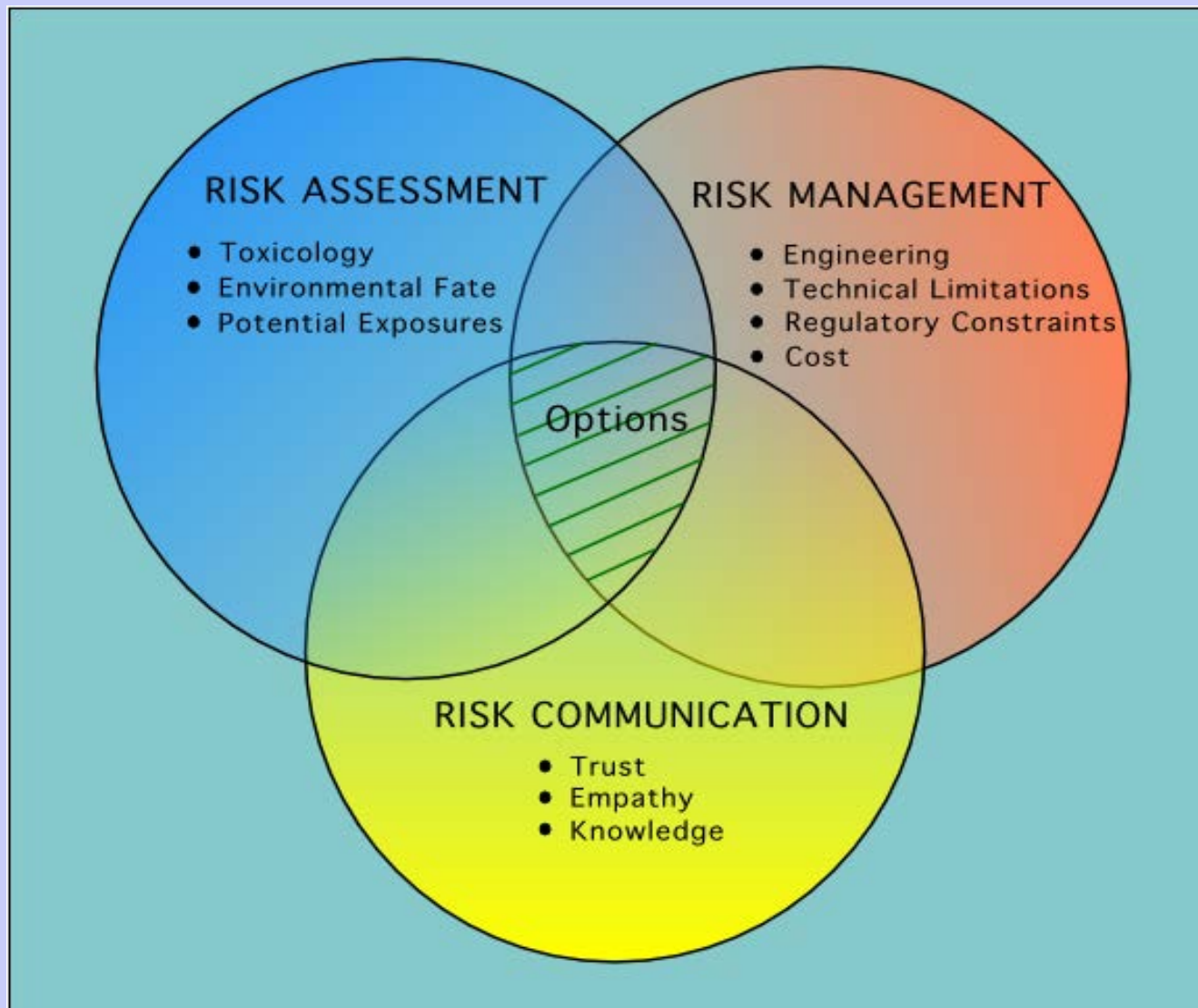


- Medications, supplements can be environmental hazards if improperly disposed in trash going to landfills or flushed down the drain / toilet (*“out of sight is not always out of mind”*)
- Water treatment facilities may not completely degrade chemicals passing through the system
  - ✓ *effluent can be discharged to surface water*
  - ✓ *effluent can be applied to sprayfields*
  - ✓ *sludge can be applied to the ground*
- Can make their way to soils, surface water, groundwater and may pose human health and ecological concerns





# Human Health Concerns



- Can represent a hazard to humans in drinking water (ground or surface water) or ambient water (lakes, streams)
- USEPA generally considers human health risks to be low
- Hormonal agents, diuretics, blood pressure medications, depression/anxiety medications



# Ecological Concerns

**PHILOSOPHICAL  
TRANSACTIONS**  
— OF —  
**THE ROYAL  
SOCIETY** **B**  
BIOLOGICAL SCIENCES

ISSN 0962-8436

volume 369

number 1656

*In this Issue*

## *Assessing risks and impacts of pharmaceuticals in the environment on wildlife and ecosystems*

*Papers of a Theme Issue compiled and edited by Kathryn E. Arnold, A. Ross Brown,  
Gerald T. Ankley and John P. Sumpter*



*The world's first science journal*



- Can represent a hazard to environmental species such as fish, reptiles, amphibians (*often called endocrine disruptors*)
- Concerns relate to reported reproductive, physiological or structural changes, some are known, some are suspected
- Hormonal agents, diuretics, blood pressure medications, depression / anxiety medications, antibiotics







**What's the Solution?**



**OPERATION MEDICINE CABINET**  
FREE Medicine Collection Event



- Don't flush medications or supplements down **drains, toilets**
- Properly store, manage, dispose of outdated, unwanted, expired, or discontinued medications, supplements
- Keep medications in their original containers and mark out personal information before bringing them in
- Spread the word on upcoming collection events in your area



**OPERATION MEDICINE CABINET**  
FREE Medicine Collection Event



- Dispose of medicines in **trash** as last resort per DEP guidance
  - ✓ *Keep medicine in original container to help identify contents if accidentally ingested;*
  - ✓ *Mark out your name and prescription number for safety*
  - ✓ *Pills, add water or soda to start dissolving them*
  - ✓ *Liquids, add inedible material (cat litter, dirt, cayenne pepper)*
  - ✓ *Close the lid and secure with duct or packing tape.*
  - ✓ *Place bottle(s) inside non-see-through container (coffee can or plastic laundry bottle)*
  - ✓ *Tape that container closed*
  - ✓ *Hide the container in the trash. Do not put in the recycle bin.*



## Supplementary Information Sources

- ✓ **SWIX** [swix.ws](http://swix.ws)
- ✓ **USEPA** [epa.gov/wqc/contaminants-emerging-concern-including-pharmaceuticals-and-personal-care-products](http://epa.gov/wqc/contaminants-emerging-concern-including-pharmaceuticals-and-personal-care-products)
- ✓ **Florida DEP** [dep.state.fl.us/waste/pharm](http://dep.state.fl.us/waste/pharm)
- ✓ **FSU Center for Biomedical & Toxicological Research** [cbtr.fsu.edu](http://cbtr.fsu.edu)







**QUESTIONS OR  
COMMENTS?**