Keeping Drugs Out of Drinking Water

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Scope of the Issue

What happens to medications when they are unused, unwanted or expired?

Answer: The medications often get flushed and get into our waterways.
The Evidence

Abnormal fish gonad with eggs and sperm.
Pharmaceuticals lurking in U.S. drinking water

Media attention increased awareness of pharmaceuticals in the drinking water

Press survey of 62 major water providers. Only research showing otherwise.

Pharmaceuticals in drinking water
- Water tested positive for pharmaceuticals
- Water tested negative for pharmaceuticals
- Water not tested for pharmaceuticals
- Test results pending

* In Virginia Beach, pharmaceuticals were found in source water but not in treated drinking water.
** Drinking water in Austin, Texas, was tested for only one prescription drug, a synthetic birth control chemical.

NOTE: All places include some surrounding areas except: Albuquerque, N.M.; Arlington, Texas; Fresno, Calif.; Long Beach, Calif.; Los Angeles; Memphis, Tenn.; New Orleans, New York City, and Orlando, Fla.

SOURCES: Drinking water providers’ responses to Associated Press questions; AP review of scientific literature.
Interconnection between Pharmaceuticals & the Environment

Ways Pharmaceuticals get into the environment

• DIRECT:
  - Through excretion of human and animal waste (most common)
  - Manufacture of pharmaceuticals
  - Runoff from animal feeding operations
  - Improper disposal, like flushing
  - Leaching from landfills

• INDIRECT:
  - Irrigate farmland with wastewater containing pharmaceuticals

Sources: 5
Pharmaceuticals & Health

- Older adults living longer
- Older adults living with multiple chronic diseases
- Younger adults living with chronic diseases
- Obesity and its related diseases
- Personalized and tailored medicine
Stakeholders’ Perspectives

Who?

Providers: Doctors, Nurse Practitioners, Physician Assistants
Dispensers: Pharmacists
Payers: Insurers, Human Resource Contacts
Other groups: Advocacy groups, Consumer groups, Pharmaceutical companies
Stakeholders’ Perspectives
Current Disposal Practices

• MOST participants did NOT discuss disposal options with consumers
• MOST did NOT know how to dispose of medications
• FEW knew where unused medications ended up or how disposed of
• ALL agreed they needed more education for professionals like themselves and would like materials to distribute to the public
Stakeholder Interviews

Research Identified Key Strategies for Policies

- Short-cycle prescribing, partial co-pays
- Use vouchers/coupons instead of drug samples
- Reduce overprescribing
  - a. Limit direct-to-consumer advertising
  - b. Include prescribing and dispensing information as part of patients’ electronic medical records
  - c. Better management of scripts written to decrease overprescribing
- Influence Joint Commission requirements
- Export an existing environmental toxicity database to influence prescribing/dispensing
- *Education of stakeholder groups*
Here’s How

1. Remove and destroy all labels from medicine bottle, or use a marker to cross out your name, the doctor’s name and Rx number.

2. Remove lid from an empty coffee can or other container.

3. Add coffee grounds or kitty litter to the container. Do not overfill.

4. Open the medicine bottle and dump the pills, tablets or liquid into the same container.

5. Place lid on container to seal it.

6. Throw sealed container into household trash.

Other Ways You Can Help

Think about the way you buy and use your medicines.
Buy only what you need.
Keep track of the medicines you have.
Always check expiration dates.
Check for local events that collect leftover medicines.
Ask your doctor and pharmacist to talk to people about the right way to throw away medicines.
Keep medicines out of reach of children and teenagers.

To learn more visit www.whitehousedrugpolicy.gov
Direct Link: www.whitehousedrugpolicy.gov/drugfact/faq6.html#18

Thank you for helping to make our environment safer
Green Sticker Pharmacy Pilot

*If we build it, will they come?*

1. Educational flyer
   Will they read it?
   If so, will they be able to recall the info?

2. Will the logo on medications and in–store help people to recall instructions on proper disposal?

3. Does this pilot result in behavior change?
Watersheds

Pennypack
Northeast
Philadelphia

Schuylkill
Roxborough
& Norristown
Results of Green Sticker Pharmacy Pilots

271 Pre-Implementation Surveys completed

151 Post-Implementation Surveys completed
  (currently conducting final surveys in Norristown, PA)

Authors’ Note: Full results removed from this presentation for web posting.
Many law enforcement groups participate
University of Michigan Study
Philadelphia Partnership for Pharmaceutical Pollution Prevention (P5) is a collaboration among government, non-profit organizations, and academia to use research for implementing better practices in pharmaceutical waste management.
With thanks & gratitude...

Students & Interns

Arcadia University
Drexel University
Temple University
Thomas Jefferson University
University of the Sciences in Philadelphia
Mission is to promote social responsibility by protecting the health of people, the environment and communities through education, training, direct service, & advocacy

Environmental Health Programs:

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