Introduction

Millions of doses of medication go unused every year and become an environmental hazard if they are disposed of in a manner that allows them to enter waterways and ultimately our drinking water. Studies indicate that well over a third of unused medications are flushed down the toilet and are, therefore, directly introduced into the environment. These medications can be hazardous to wildlife and contaminate our drinking water. Accidental ingestion by children or the elderly and inappropriate recreational use are additional hazards posed by unused medications that are not properly discarded.

Team “No Flush” Mission

Our purpose is to educate the public about the environmental and public health hazards of improper medication disposal and to provide an alternative method of disposal that protects the quality of our water and reduces the possibility of prescription drug abuse or accidental poisoning.

Define the message: Our public message must convey the necessary concerns of improper medication disposal and meet the approval of the local water treatment plants, the pharmaceutical industry and the federal agencies involved with pharmaceutical regulation. Fortunately, ORSANCO (Ohio River Valley Water Sanitation Commission) has previously created two brochures with wording that meets these requirements. Our team used this previously created verbiage as a basis for our public relations message.

Make the “No Flush” message widely accessible: School teachers, drug abuse coalitions and environmental organizations frequently seek printed materials about the hazards of improper drug disposal but supplying large quantities of brochures is not feasible. We felt that a website would allow this information to be widely and economically available to the public.

Most importantly, having a website provides a back up resource for a short message. Often there is only room on a bottle or instruction sheet, for a brief reference to proper medication disposal. The message can contain a link to our website and interested individuals can visit the site to learn more about the problem and solutions. As an example, The Hand Surgery Center places a sticker on every medication instruction sheet that reads: “No Flush! Please dispose of any unused medication in wet
kitty litter or coffee grounds, then mash it and throw it in the trash. Learn more: www.flushnodrugs.com.”

Our website has been up and running for the past six months. We are coordinating with the Coalition for a Drug Free Greater Cincinnati to keep the site updated. Please visit www.flushnodrugs.com.

Spread the word locally: In an effort to raise public awareness of the dangers of improper medication disposal, our team staffed the ORSANCO booth at Earth Day, distributed “No Flush” brochures and educated patrons about the issue.

Arrange a “Take Back Event”: A “Take Back Event” collects unused medication and then disposes of it through incineration. The organization of this event is no small task as it requires coordination with law enforcement, the Ohio Pharmaceutical Board, incineration companies and volunteers. Once the regulatory issues are addressed, it is necessary to raise public awareness through appropriate advertising. Our committee has researched, organized and planned a “Take Back Event” that will occur in the fall of 2010.

Create an ongoing education program. To effectively reduce the pharmaceutical contaminants in our environment and decrease accidental and intentional misuse of medications, it is necessary to have an ongoing education program that is independent of the existence of our committee. Toward that end we worked diligently to incorporate the “No Flush” message into the patient education that occurs at the time of prescription writing and, most importantly, at the moment the prescription is picked up at the pharmacy.

Education at the time of prescription writing is currently being consistently performed and incorporated into the paperwork in multiple health care facilities including the Hand Surgery Center and we are working with major hospital systems to incorporate this education into the discharge paperwork that patients receive when leaving the hospital, emergency room, surgery center or outpatient clinic.

Team “No Flush’s” most important success is getting the proper disposal message incorporated into the information that patients receive when they pick up a prescription. This allows patients to see these instructions with each prescription purchase. For many years into the future, the prescription instructions will increase awareness of the dangers of improper medication disposal and provide proper disposal techniques.

Kroger Pharmacy and the Alliance hospitals have already added the proper disposal instructions to their prescription instruction paperwork! Each day, thousands of patients are receiving the “No Flush” message. We also have commitments from the TriHealth and Mercy Hospitals to include proper disposal instructions in their pharmacies’ patient handouts.

Summary:

Team “No Flush” has been successful in raising public awareness and providing education about the proper disposal of medication through our public appearances and the upcoming “Take Back” event. We are proud that we have created an education campaign that will outlive our committee through the patient education information that will be distributed by the pharmacies of Kroger’s, the Alliance, TriHealth, Mercy and by our website. Our hope is that this ongoing educational campaign will raise public awareness about the problems of improper medication disposal, change behaviors, reduce accidental poisonings and intentional recreational misuse of drugs and improve the water quality of our streams and drinking water.
Marianne Ivey, Linda Smith-Berry
Jill Benavides Meridith, Lynn Meyers
Nestor Melnyk, Tom Kiefhaber, Ross Bushman
Unwanted Medications

- Change of prescription
- Not finished as prescribed – “non compliance”
- Did not need it all (pain meds)
- Patient Death
- Expired OTC
Risks of Improper Disposal

Environmental impact
- Accumulation in waterways → potentially harmful effects on wildlife and humans

Accidental ingestion
- 78,000 children/year under 5 treated for unintentional medication poisoning in U.S.

Illegal use or theft
- Appropriation by family and friends, workers in homes, and burglars
- “Pharm Parties”
- Every day 2,500 teens use medications to get high for the first time
- 26.5% use Rx drugs without a prescription
Narcotic Exposure to Children < 6yo

- Methadone (20) 42%
- Hydrocodone (12) 25%
- Oxycodone (10) 21%
- Codeine (1) 2%
- Fentanyl (3) 6%
- Morphine (2) 4%

Medicine in the Environment

U.S. Geological Survey monitoring study

- 139 streams analyzed in 30 states
- 82 contaminants identified in 80% of these streams
- Average 7 distinct contaminants identified per stream
- Some medications and their metabolites detected in finished water
Expired Medication Disposal Habits

500 patients surveyed:

- **54%** disposed of medications in the trash
- **35.4%** flushed drugs down the toilet or sink
- **7.2%** did not dispose of medications
- **2%** used all medication prior to expiration
- **1.4%** returned medications to the pharmacy

“Toilet to Tap”
Team “No Flush” Mission

• Our purpose is to educate the public about the harm done to the environment due to flushing prescription and controlled substances into our water supply.

• Provide an alternative way of disposal that protects the quality of our water and reduces the possibility of prescription drug abuse and accidental misuse and/or poisonings.
Goal 1: Define the Message

- Build our message based upon the brochure created by ORSANCO and approved by PHARMA, Lilly, and several water districts.

How To Properly Dispose of Unwanted Medication

The water we drink comes from our streams, lakes, rivers and underground aquifers. So, it’s very important that each person does his or her part to reduce the pollution that enters the waterways that carry our drinking water.

Pharmaceuticals can enter our waterways through several different pathways:
- Pets & Livestock
- Human waste
- Improper disposal of medicine

Do your part to limit the release of pharmaceuticals, of any type, back into the environment. Properly dispose of unused medications by following the guidelines provided on the reverse side.

The White House Office of National Drug Control Policy recommends that you:
- Take unused, unneeded, or expired prescription drugs out of their original containers & throw them in the trash.
- Mix prescription drugs with an undesirable substance, such as used coffee grounds or kitty litter, and put them in impermeable, non-descript containers, such as empty cans or sealable bags.
- Don’t flush prescription drugs down the toilet unless the label or accompanying patient information specifically instructs doing so.
- Take advantage of community pharmaceutical take-back programs that allow the public to bring unused drugs to a central location for proper disposal.

For more information on pharmaceuticals in the environment visit the following websites:
- www.epa.gov
- www.epa.gov/systems/lat.html
- toxics.epa.gov/region1/env
- www.cdc.gov/youth/med.html
- www.niaalcoholfest.org/eng/metadvisor.html
- www.niaa.gov/factsheets/medication.html

This brochure was developed by the Ohio River Valley Water Sanitation Commission (ORSANCO)
www.orsanco.org

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Goal 2: Spread the Word

Earth Day April 17th, 2010
Yes, That is the Mayor!
Goal 3: Website = Accessible message

- Website
- Additional information when only a short message is possible
- Teaching in schools
- Resource for other organizations

For more information please visit: www.FlushNoDrugs.com
Properly dispose of unwanted medication

The water we drink comes from our streams, lakes, rivers and underground aquifers.

So, it's very important that each person does their part to reduce the pollution that enters the waterways that carry our drinking water.

Learn how to properly dispose of unwanted medications

Learn about the environmental impact

The information on this site was developed by ORSANCO, Ohio River Valley Water Sanitation Commission
FlushNoDrugs.com

Do your part to limit the release of pharmaceuticals back into the environment

The water we drink comes from our streams, lakes, rivers and underground aquifers. So, it’s very important that each person does his or her part to reduce the pollution that enters the waterways that carry our drinking water.

Pharmaceuticals can enter our waterways through several different pathways. Wastes from pets and livestock can run off into streams. Unused amounts of the medicines we take pass through our bodies and enter sewer systems. People also fail to properly dispose of unused medicines, contributing to the problem.

Do you know how to properly dispose of unwanted medications? Have you even thought about the unused medications that are dumped down the drain or flushed down the toilet? Those medicines can seep back into our waterways.

Medicines flushed down the toilet go to one of two places: they break down, or they make it through the filter screen, and then they are flushed down the toilet. Those medicines can then be washed down the drain into the environment. Very low levels of pharmaceuticals can be found in our lakes, streams and rivers.

What are the risks associated with flushing medications? Consider:

1) whether these levels affect the fish and wildlife that use the waterways
2) whether these pharmaceuticals are the kind that stick around, and, if so, for how long
3) whether the very low levels detected pose a health risk to people

Do your part to limit the release of pharmaceuticals, of any type, back into the environment. Proper disposal of unused medications by following the guidelines provided on the next page.

Learn how to properly dispose of unwanted medications.

FlushNoDrugs.com

The White House Office of National Drug Control Policy recommends that you:

Take unused, unneeded, or expired prescription drugs out of their original containers and throw them in the trash.

My prescription drugs or an unsalable substance, such as used coffee grounds or kitty litter, and put them in impermeable, non-descript containers, such as empty cans or sealable bags.

Don't flush prescription drugs down the toilet unless the label or accompanying patient information specifically instructs doing so.

Take advantage of community pharmaceutical take-back programs that allow the public to bring unused drugs to a central location for proper disposal. Some communities have pharmaceutical take-back programs or community solid-waste programs that allow the public to bring unused drugs to a central location for proper disposal. Where these exist, they are a good way to dispose of unused pharmaceuticals.

Additional educational resources...

FlushNoDrugs.com

A wealth of information pertaining proper disposal of pharmaceuticals can be found on the Internet

The United States Environmental Protection Agency (EPA) and the United States Geological Survey (USGS) as well as other agencies, researchers from colleges and universities, research foundations and industry scientists are studying the problem and working toward solutions.

Guidelines for proper disposal

White House Drug Policy

US EPA Information on pharmaceuticals

US Geological Survey Information

Guideline for appropriate disposal

American Water Works Association

ORGANIC Pharmaceutical Brochure

For information on the state and local waste to management authorities in your area, click here...
Goal 4: Take Back Event

- Collect unused meds
- Educate the public
- Raise awareness of the problems
  - Pollution
  - Poisoning
  - Pharm Parties
Learn the Ropes

• Study other successful events
• Learn rules and regulations
• Visit the Oxford take back event
Take Back Hurdles

- DEA & Ohio Board of Pharmacy Rules
  - Class of meds allowed
  - Chain of possession
- Law enforcement
- Waste disposal
- Location, Advertising, Volunteers
Team “No Flush” Prevails

Cincinnati
“Take Back”
Fall 2010
Goal 5: The Lasting Message!

- Distribute the “No Flush” message with:
- Each prescription that is written
- When each prescription is picked up at the Pharmacy
At the Time of Prescription

- Working with major hospitals to place the “No Flush” message on discharge paperwork.
- Hand Surgery Center
Prescription Dispensing: Wow, Think of the Impact!

- Message with each bottle of medicine dispensed!!
- Kroger – done!
- Alliance – done!
- TriHealth – yes
- Mercy - yes

Don’t Flush Your Drugs

Do you know how to properly dispose of unwanted medication? Have you ever thought about the unused medications that are dumped down the drain or flushed down the toilet? Those medicines can end up back in the environment.

Medicines flushed down the toilet go to one of two places: septic tanks or through sanitary sewers and into wastewater treatment plants which may not fully or effectively remove all of the pharmaceutical waste. The White House Office of National Drug Control Policy recommends the following:

1) Take the unused, unwanted or expired drugs out of the original container(s) and place the drugs in an impermeable, leak-proof and non-descript container, such as a sealable bag or empty can
2) Add in a wet undesirable substance like coffee grounds or cat litter
3) Seal the container and place in the trash
4) Dispose of the original pill bottle after defacing the prescription information

For more information - visit www.FlushNoDrugs.com

Don’t flush prescription drugs down the toilet unless the label or accompanying patient information specifically instructs doing so.

Do your part - Limit the release of pharmaceuticals back into the environment!
Bag Inserts: Wide Distribution

Think Before You Flush

To help protect our environment, please use the following Steps to Properly Throw Away Unwanted Medications:

1) Take unwanted or expired drugs out of their original container and place them in a sealable bag or leak-proof container.
2) Add wet coffee grounds or cat litter to the container and mash up all of the contents.
3) Seal the container and throw it in the trash.
4) Remove the prescription information on your original pill bottle and throw it away.

For more information please visit: www.FlushNoDrugs.com

Greater Cincinnati Health Council
In partnership with Leadership Cincinnati
Team “No Flush”

- Planned a “Take Back” event
- Website – FlushNoDrugs.com
- Earth Day
- Messages at time of prescription
Team “No Flush”
Lasting Legacy

“No Flush” Message on prescriptions from
– Kroger
– Alliance
– TriHealth
– Mercy

Don’t Flush Your Drugs

Think Before You Flush
To help protect our environment, please use the following steps to properly throw away unwanted medications:
1) Take unwanted or expired drugs out of their original container and place them in a sealable bag or leak-proof container.
2) Add wet coffee grounds or cat litter to the container and crush up all of the contents.
3) Seal the container and throw it in the trash.
4) Remove the prescription information on your original pill bottle and throw it away.

Never flush prescription drugs unless the label instructs to do so.

For more information, please visit www.FlushNoDrugs.com

Greater Cincinnati Health Council
In partnership with Leadership Cincinnati

Do you know how to properly dispose of unwanted medication? Have you ever thought about the unused medications that are dumped down the drain or flushed down the toilet? Those medicines can end up back in the environment.

Medicines flushed down the toilet go to one of two places: septic tanks or through sanitary sewers and into wastewater treatment plants which may not fully or effectively remove all of the pharmaceutical waste. The White House Office of National Drug Control Policy recommends the following:
1) Take the unused, unwanted or expired drugs out of the original container(s) and place the drugs in an impermeable, leak-proof and non-descript container, such as a sealable bag or empty can
2) Add in a few undesirable substance like coffee grounds or cat litter
3) Seal the container and place in the trash
4) Dispose of the original pill bottle after defacing the prescription information

For more information - visit www.FlushNoDrugs.com

Do not flush prescription drugs down the toilet unless the label or accompanying patient information specifically instructs doing so.

Do your part - Limit the release of pharmaceutical back into the environment!
FLUSH NO DRUGS

Leadership Cincinnati 2010

NO FLUSH!
Please dispose of any unused medication in wet kitty litter or coffee grounds, then mash it & throw in the trash.
Learn more: www.flushnodrugs.com