



THE CHALLENGE OF HOUSEHOLD PHARMACEUTICAL WASTE

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DISTURBING HUMAN HEALTH STATISTICS

- 71,000 children visit emergency rooms for accidental overdoses of prescription and over-the-counter medication each year.
- More than 80% of the overdoses are due to unsupervised ingestion of medication.
- Prescription drugs are the second most abused “illegal” drug behind marijuana in the 12-17 age group.
- Research on deaths in the U.S. due to poisoning from 1999-2004 shows that nearly all poison deaths were attributed to drugs.
- Of the teens abusing prescription drugs, 10% reported getting them from a relatives medicine cabinet and 73% reported getting them for free from a friend.



No children were harmed in the making of this slide.



DISTURBING ENVIRONMENTAL STATISTICS

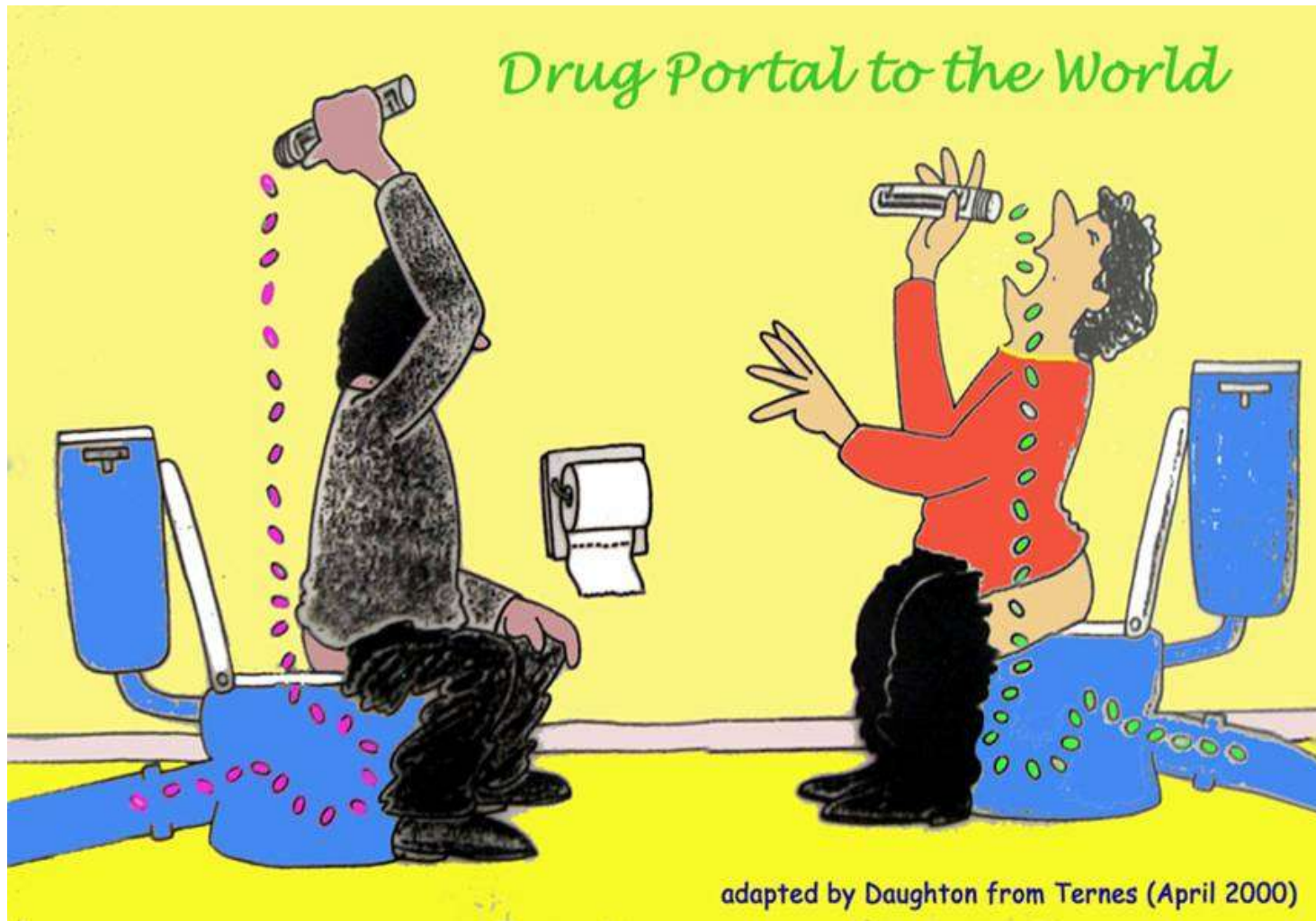
- A test of nine separate land-applied wastewater biosolid sources revealed antiepileptics, antihistamines, antidepressants, and steroids were present in all samples in ranges from 68 to 209,000 micrograms per kilogram of organic carbon. - USGS
- The majority of municipal water supply systems are not set up to test for pharmaceuticals in the water much less filter them out.



- Water testing in Philadelphia discovered 56 pharmaceuticals or byproducts in treated drinking water, including medicines for pain, infection, high cholesterol, asthma, epilepsy, mental illness and heart problems. 63 pharmaceuticals or byproducts were found in the city's watersheds. – Associated Press



WHAT'S THE PROBLEM?



THAT'S A NEAT PICTURE, BUT REALLY, WHAT'S THE PROBLEM?

- Pharmaceuticals stockpiled at home result in misuse and accidental poisonings
- Medicines that are actually taken and excreted out through normal body pathways enter our wastewater and are not completely filtered out
- Unused medications that are flushed down the drain enter our wastewater
- Unused medications that are disposed of in municipal landfills run directly to streams through leachate



HOW DO WE FIX IT?



- Stop using medications? – That isn't going to happen.
- Treat it? – Wastewater treatment plant retrofits are extremely costly, take a long time, and are normally driven by regulatory requirements. Plus, technology has a long way to go to catch up.
- Minimize it? - Minimize the pharmaceuticals entering our water supply by disposing of them other ways? Hey! We can do that!



BEST MANAGEMENT PRACTICES

- The World Health Organization recommends that all pharmaceuticals are incinerated in high temperature incinerators (above 1200 C) to ensure breakdown of all bonds.
- Hazardous Waste and other Industrial Incinerators are the best choice for disposal as they are closely monitored and regulated.
- So why don't we just take these things to our local Household Hazardous Waste Facility and let them take care of it?

PROBLEM SOLVED?



THE BIGGEST BARRIER TO COLLECTION

The Drug Enforcement Agency's Controlled Substances Act states that it is "unlawful for any person to knowingly or intentionally possess a controlled substance unless such substance was obtained directly or pursuant to a valid prescription from a practitioner."



The local DEA must also be notified of and approve all pharmaceutical collections.



SO HOW DO WE DO THIS?

- **Mail Back Programs** – Requires the local Drug Enforcement Agency to agree to accept the pharmaceuticals.
- **Pharmacy Kiosk Take Backs** – Requires buy in from the Pharmacy and requires law enforcement to be present to take possession if controlled substances are accepted.
- **One Day Take Back Events** – Requires buy in from local governments and other strategic partners and requires law enforcement to be present to take possession of controlled substances.



WHAT WE DO IN KANSAS CITY

- The Kansas City HHW Facility accepts non-controlled substances at our facility and our mobile HHW events.
- Law Enforcement in Kansas City will accept controlled substances on a walk in basis at all police stations.
- This year, through a partnership with Bridging the Gap, Kansas City will be accepting controlled substances at city sponsored neighborhood cleanup events.
- Various neighborhood associations throughout the metro area hold their own small scale take-back events



TAKE BACK EVENTS REQUIRE

○ Law Enforcement Involvement

- Missouri DEA officials require notification of the event to be sent by the attending officer.
- Uniformed officers must be at the collection point at all times to insure that all controlled substances are separated from non-controlled and properly documented.
- Law enforcement must accompany all controlled substances to the incinerator and witness final disposal.



TAKE BACK EVENTS REQUIRE

- **Strategic Partnerships**
- Community Outreach Organizations pull together and coordinate volunteers, secure event sites, print flyers, supply tables and signage
- Neighborhood associations for advertising and supplying volunteers for surveying and sorting medication
- Pharmacists and/or pharmacy students to help with quick identification of the medication and to deal with unknowns.



TAKE BACK EVENTS REQUIRE

o A Disposal Source

- Partnerships with local hospitals or clinics with incinerators
- Hazardous Waste contractors if available
- Cement kilns or other industrial burner sources
- Must make sure they are actually incinerating the material safely and legally



ONCE WE COLLECT IT, WHERE DOES IT GO?

- All controlled substances go to the police evidence room where it is contained until destruction is scheduled.
- The KC Police Department uses a cremation incinerator to dispose of medication at a temperature of 1,600 Fahrenheit.
- The Kansas City HHW Facility takes all non-controlled substances back to the facility and disposes of them in our pesticide waste stream. They are then sent to a Hazardous Waste Incinerator in Ohio and burned at 1,800 degrees Fahrenheit.



THE FUTURE OF PHARMACEUTICAL COLLECTION

- Legislation is in progress right now to amend the Controlled Substances Act to allow for take-back initiatives
- **Safe Drug Disposal Act of 2009** – If passed would allow State take-back disposal programs and amend the Food, Drug and Cosmetic Act to prohibit recommendations on drug labels for disposal through flushing.
- **Secure and Responsible Drug Disposal Act of 2009** - Would amend the Controlled Substances Act to enable consumer take-back programs.



HOPE FOR THE FUTURE

- Federal and State mandated collection programs
- Sustainable programs paid for by end users or pharmaceutical companies
- Medicine take back for all substances readily available at pharmacies or HHW/Recycling Facilities
- Advances in wastewater treatment.



CONTACT INFORMATION

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