

**The P2D2 Network & IL-IN Sea Grant
Passing the Torch – *Educating* the Next Generation for
Pharmaceutical Environmental Stewardship**

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&

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Presentation Outline

- What is new with IL-IN Sea Grant
Proper disposal of Unwanted Medicines
- What is new with P2D2
- What is planned for 2010





IL-IN Sea Grant Resource Kit:

Disposal of Unwanted Medications

A Resource for Action in Your Community

<http://www.iisgcp.org/unwantedmeds/>

Purpose: Guide for communities who are looking for a solution for their drug disposal problem

Use: Solid waste officials, county and state officials, community groups, high school students, environmental and community organizations, pharmacists, researchers

Suceses: Educated thousands of individuals on the issue, supported several outreach campaigns for communities holding events, created new networking groups

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Content

- 1. Introduction to the issue**
- 2. Case Studies of Take-Back Programs**
- 3. How to Hold a Collection Event**
- 4. Materials for Public Outreach and Education**
- 5. Pharmaceutical Donation/Take-Back Legislation**
- 6. International Policy on Medicine Donations**
- 7. Bibliography on Pharmaceuticals, the Environment, and Human Health**
- 8. Information for Nursing Homes and Assisted Living Facilities**
- 9. PowerPoint Presentation**



Why are we supporting community collections?

- Education about the issue
- Communities are
 - asking for assistance
 - asking for education materials
 - Concerned about issues of teenage abuse, diversion, older adult safety

Types of Stewardship Activities

- One-time consumer collection events
- Permanent collection locations
 - On-going one-day events
 - Collection boxes at pharmacies
 - Police stations
 - HHW facilities
- Mail-back programs
- Education



What's Happening in Illinois?

Chicago

- 4 annual events, 25 Chicago sites, spearheaded by Chicago Police Dept.
- Targeted older citizens; Since 2004: 6,000 lbs of medicines collected; now containers at 5 Chicago Police Stations

Sangamon County (Springfield)

- Annual HHW events ~50 barrels of meds diverted from waterways and landfills; properly disposed of by incineration

Other areas in Illinois

- Will County (700,000 people) - pharmacies (non-controlled only)
- Kendall County (100,000 people) - Yorkville police station
- Many others (22 counties) through P²D² Program
- <http://www.epa.state.il.us/medication-disposal/locations/index.html>



Mail Back Program

- TakeAway™ Envelope (Sharps Inc.)
- 10 Gallon TakeAway™ Community Environmental Return System



What is Still Needed?

- Legislation Reform and funding
- Research:
 - Excretion vs. disposal; veterinary vs. human-feedlots (CAFOs), farms may be largest source
 - Humans, pets, livestock will always be taking meds, so solutions at the WWTP are needed for the long run
- Curb medicine waste and over-prescribing
- Education and Outreach
 - Provide simple solutions for individuals, MDs, pharmacies, hospitals (VA), hospices, rehab centers, schools, etc.

Safe Disposal of Unwanted Medicine

➤ Curriculum

- Develop curriculum materials
- Market these resources
- Develop 4-H guide—currently in pilot test phase

➤ Service Learning Activities

- Training for pharmacy, pharm techs, vet medicine students
- Link college and high school students to create community stewardship projects
- Investigate collaborating with faculty to create new UI service-learning course

➤ Events

- Integrate educational activities into exhibits, “Getting Rid of Stuff Sensibly (GROSS)”

Prescription Pill and Drug Disposal Program



Pontiac Township High School

Where did the idea come from?

- Mr. Ritter's wife, Jodee, asked what she should do with some unused pharmaceuticals in their medicine cabinet.
- Not sure what the correct method of disposal was, Ritter posed the question to his students and the young ecologists researched the Internet for a solution. [Process of Inquiry](#)

Then what?

- Students presented their findings to a group of local leaders: Daily Leader
 - Street Superintendent
 - Pharmacy Managers
 - Mayor
 - Illinois American Water Plant Manager
 - Pontiac Waste Water Treatment Plant Manager

What was created at the meeting?

- **P²D²**: A collaborative effort between local pharmacies, officials, and students.
- The purpose is to educate the public about the harm done to the environment due to the current prescription and non-prescription drug disposal practices and to provide them with an alternative way that ensures the quality of our water for future generations.

How does the program work?

- Individuals take their unused and unwanted prescription and non-prescription drugs to participating pharmacies.
- Pharmacists take the pharmaceuticals and place them into secure bins.
 - *Please note that only licensed pharmacists and assistants handle the returned pharmaceuticals.*
- When the bins fill up, pharmacists send them off to be incinerated.
- The company that incinerates the pharmaceuticals creates energy that is used to power homes and businesses.

How did we get the word out about P²D²?

- Ecology
- Illinois Studies
- Music Theory – Cleaner Water
- Cleaning Out the Cabinet
- P²D² Billboard
- Economics – Veterinarian Survey

Wisconsin P²D² And Jordyn Schara



- Jordyn Schara – 14 year old 8th grade freshman
- Reedsburg, Wisconsin – September 2009, Implements entire program by herself.
 - 3 town meetings with officials
 - Arranges donations to pay for disposal.
 - Sets up disposal company
 - Sets up Flu shot clinic
 - Sharps disposal
 - Mercury thermometer disposal

Wisconsin P²D²



- 450 plus pounds of pharmaceuticals collected.
- 120 Mercury thermometers.
- 33 gallon trash can of needles.
- Permanent Wisconsin P²D² program.
- Reaching out to all WI communities

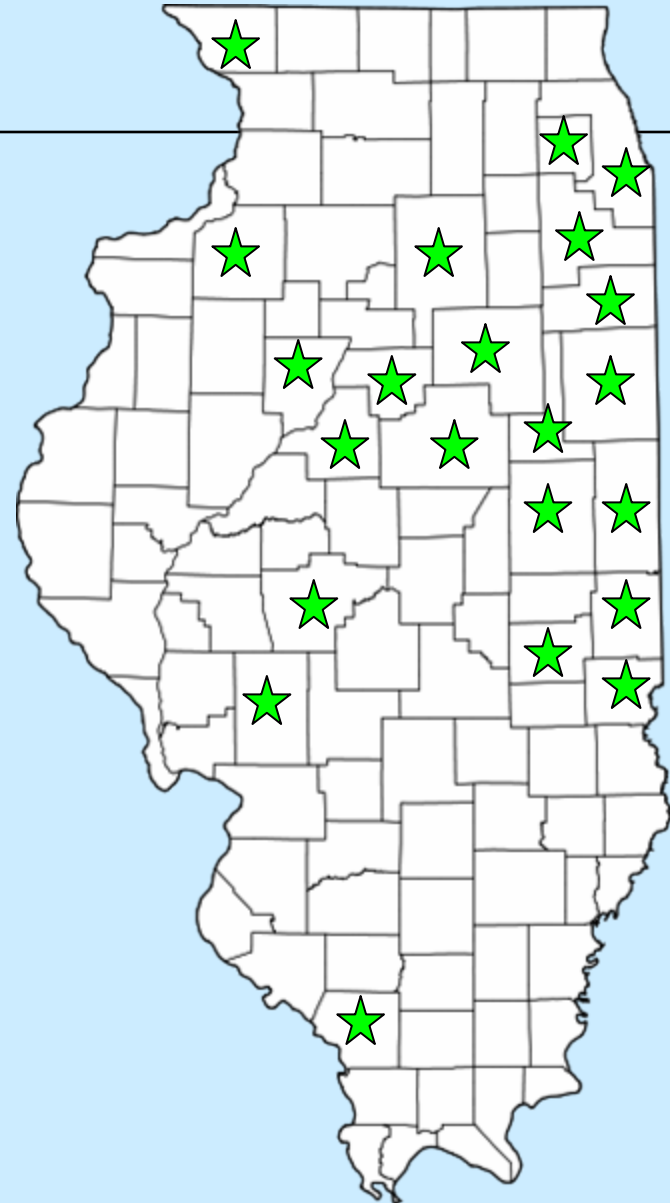
To Date Disposal Total Illinois

- Since inception we have collected approximately 175 fifty-five gallon drum equivalents of pharmaceuticals
- **87,500 lb**
- This does not include privately funded disposals



Illinois P²D² Program Counties

Livingston	Troquois
McLean	Jackson
LaSalle	Jo Davies
Champaign	Kankakee
Clark	Macoupin
Coles	Peoria
Cook	Sangamon
DuPage	Tazwell
Edgar	Vermilion
Ford	Will
Henry	Woodford



What is accepted at Pharmacies?

- All non-controlled medications, which includes:
 - Prescription and OTC medications
 - Pet medications
 - Vitamins & Supplements
 - Liquid medications in leak-proof containers
 - Homeopathic remedies
 - Suppositories



What is done with the medications?

- Three bin system:
 - Pills
 - Ointments, Liquids, Creams, etc.
 - Blister packs
- Medications are picked up by Veolia Environmental Services and incinerated at various locations



What should you do with controlled substances?

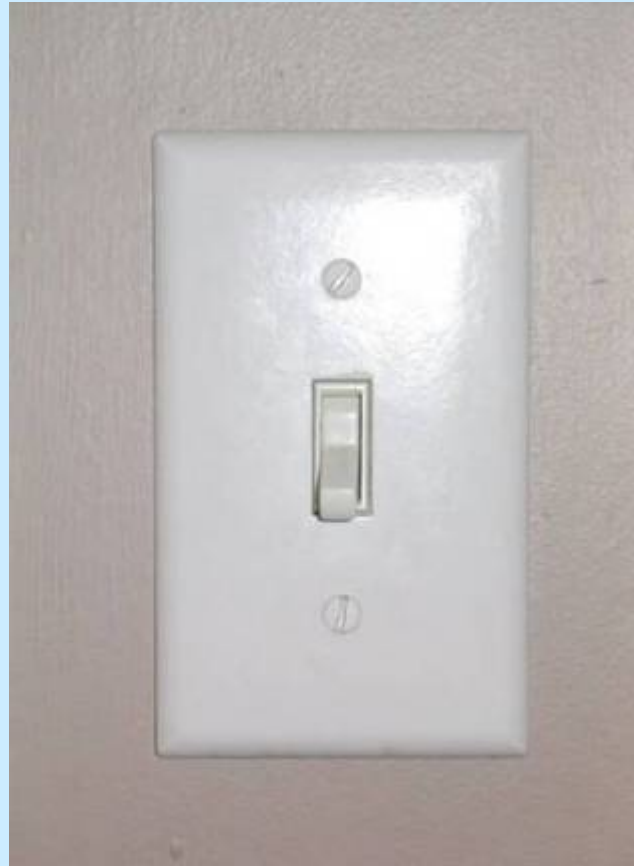
- Individuals can take their unused and unwanted Class II controlled substances to the Pontiac and Illinois State Police Departments.
- The departments have secure drop boxes that individuals can place their substances in - no questions asked.
- The substances are disposed of following proper police procedures.

Is data collected?



- We collect statistics in the form of the number of pounds collected at each location.
- This is done voluntarily by each location.

Why should you create a program of your own?



P²D² Prescription Pill & Drug Disposal Program





A grassroots effort pays off

Pontiac High School students start prescription drug disposal program



Local Township High
 Cynthia Phillips, 18,
 from Super Drugs in



she researched the topic and found that pharmaceuticals
 which are surrounding soil and end up in the local water
 treatment plants. These plants are not designed to remove
 prescription drugs. In fact, a 2002 study by the
 and a survey of 137 streams across 10 states found that
 waterways tested had measurable concentrations of
 and non-prescription drugs, steroids and reproductive

It has an adverse effect on wildlife, and scientists are
 also concerned about its effect on humans. Scientists
 have shown that it can increase rates of breast, prostate
 cancer in humans, as well as lower sperm counts and
 cause. Scientists worry that antibiotics in the water sup-
 port bacterial resistance.

Thank you to the students and the help of local officials.
 in Valley from Illinois America Water Company. Chris



Whats coming soon:



The Medicine Chest

A collection of safe disposal curriculum activities and educational resources

Expected Impacts

- Educators use existing education projects (P2D2) in their teaching.
- Engage non-formal education partners
- Create a science-based understanding of proper disposal methods.
- Student citizenship is enhanced
- Public takes positive steps to properly dispose of their unwanted medicines



To Learn More



www.iisgcp.org/gros/meddisposal.html

www.p2d2program.org

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