

Illinois-Indiana Sea Grant Education Initiative

Students as Agents for Change: Informing Communities about Proper Disposal of Unwanted Medicines

Program Overview and Key Motivation: In response to a growing national concern about improper disposal of unused or expired medicine and medicine misuse, educators from the University of Illinois Extension/Illinois-Indiana Sea Grant Program are creating two pilot education projects that target youth audiences.

Organizing Body: Illinois-Indiana Sea Grant Program/University of Illinois Extension

Partners: Prescription Pill Drug Disposal Program (P²D²), Purdue University Extension, Purdue University Department of Youth Development and Agriculture Education

Level of Implementation: Illinois-Indiana Sea Grant extension educators identified two target youth audiences to receive this information about improper disposal of unused or expired medicine and medicine misuse: high school students and 4-H youth. Two curriculum-based publications are in development for these youth audiences. The first is *The Medicine Chest: A collection of safe disposal curriculum activities and service-learning resources* (<http://www.iisgcp.org/education/MedicineChest.pdf>), a compilation of multidisciplinary, standards-based classroom lessons, sample stewardship activities, and background information for teachers and high school students. Included activities demonstrate how the improper disposal of unwanted medicines can be harmful to people, pets, and our waterways.

As they engage in these community stewardship activities, students will serve as “agents for change” in people’s habits to improve the quality of our waters. Students will develop lifelong skills as they provide useful information about medicine disposal to family members and various community sectors. Students who actively take part in *The Medicine Chest* activities will be equipped to deliver resource protection and health and safety messages to help people make conscientious decisions when disposing of medications and other household chemical products.

An important component of *The Medicine Chest* is the sample P²D² Program lesson plans developed by ecology, civics, language arts, health education, foreign language, music and art teachers at Pontiac Township High School (aligned with both Illinois and Indiana State Academic Standards, and with National Science Education Standards). High school teachers are also provided with numerous multidisciplinary approaches on how to engage students in successful service-learning projects and how to gather data from research-based background information, including Illinois-Indiana Sea Grant’s Disposal of Unwanted Medicines toolkit.

The second publication targeted to 4-H leaders and youth members is the 4-H Guide, *Disposal of Unwanted Medications*. Illinois-Indiana Sea Grant is collaborating with authors Natalie Carroll Purdue Extension Specialist and Professor of Youth Development and Ag Education and Whitney Siegfried, Graduate Student, Purdue University Extension to create this guide aimed at high school-aged 4-H’ers. Through experiments, simulations, research, and discussion activities, youth will understand why chemicals from medications are being found in the environment; the harm these chemicals can cause; and what can be done about it.

Five inquiry-based lessons are included in the guide:

- *So, what's the big deal?* A filtration experiment that teaches about wastewater disposal.
- *What are the issues?* Conducting research to learn about the history of disposal of unused and expired medicine; Taking a poll of citizens' disposal activities.
- *What should I be concerned about?* Using online resources to acquire the latest data and to learn about the medications of primary concern; Preparing a report that describes contaminants found in local waterways.
- *What are my options?* Act upon the better alternatives and work to reduce flushing of medicines in their communities by investigating alternatives for proper disposal of expired and unused medicine and brainstorming ways to provide community education.
- *How can I let other people know about these issues?* Suggestions for how youth can share their knowledge through projects such as speeches, displays, demonstrations, mentoring a younger 4-H member, and outreach to older adults.

Illinois-Indiana Sea Grant's strategic collaborations with scientists, outreach specialists, educators, and curriculum specialists have yielded many benefits. Illinois-Indiana Sea Grant is well positioned to deliver education resources; conduct professional development training for both formal and non-formal educators, with the ultimate goal of providing youth with the necessary skills to take action, engage and inform others, and create awareness about an important topic that will help improve people's health and safety, as well as the sustainability of our living aquatic resources.

Outcome: Both *The Medicine Chest* and the *Disposal of Unwanted Medications* 4-H guide are in final review; expected printing and distribution in Spring 2010. Evaluations of the effectiveness and impacts of the guides will be forthcoming.

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