THE PH:ARM PILOT
Pharmaceuticals From Households: A Return Mechanism

Executive Summary

Unwanted Medicines

Unwanted medicines pose a risk to people's safety when stored in homes and can pollute the environment when improperly disposed. A significant amount of medicine goes unused–estimates range from 10 to 33 percent of medicines sold.

Currently available options for disposal of unwanted medicines are limited largely to flushing drugs down the toilet or throwing drugs in the trash. Unwanted medicines can pollute the environment when put into sewer or septic systems. Disposing of medicines in the trash increases the chance of theft and poisoning.

To address the need for a safe way to dispose of unwanted medicines, a coalition of government, nonprofit, and business partners began a pilot in 2006 called Pharmaceuticals from Households: A Return Mechanism (PH:ARM) at Group Health Cooperative, a regional healthcare organization in Washington, Bartell Drug, a Western Washington retail pharmacy chain, and two boarding homes.

Medicines in the home were responsible for 85 percent of accidental poisoning deaths in Washington in 2006.

Community Demand for Safe Disposal of Medicines is High

With little advertising, a total of 15,798 pounds of unwanted medicines was collected from residents during the two year PH:ARM pilot at Group Health, Bartell Drugs and boarding homes. Since the beginning of the pilot, collected medicines now total over 35,000 pounds.

The full report can be found online at www.takebackyourmeds.org/resources

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The Problem with Unwanted Medicine

Residents who store unneeded medications in their homes may increase the risk of accidental poisonings and drug diversion. Medicines in the home were responsible for 85 percent of accidental poisoning deaths in Washington in 2006. Many involved young children and the elderly. The use of prescription pain relievers, stimulants, and other medicines to get 'high' is also a growing problem in our communities. Studies show nearly 11 percent of 12 to 17 year olds in Washington used prescription medicines for recreation. Most obtain prescription drugs from a friend or relative, often without their knowledge. In King County, a survey found that 39 percent of households surveyed had more than ten containers of medicine on hand, and most households did not plan to use all of these medicines within six months.

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When residents dispose of medicines in the toilet or sink, these contaminants are passed on to municipal wastewater treatment systems or septic systems. Many pharmaceuticals are not effectively removed by these systems and have been measured in wastewater effluent. When medicines are disposed of in the garbage, medicines may end up in landfills that use these same wastewater treatment systems to treat their leachate. A 2002 United States Geological Survey study found organic wastewater contaminants, including pharmaceuticals, in 80 percent of sampled streams. Drinking water supplies are not routinely tested for pharmaceuticals, but limited surveys have detected medicines in drinking water of 24 U.S. cities.

A growing body of research has found a relationship between environmental exposure to some medicines and developmental changes in aquatic organisms. While pharmaceuticals also enter the wastewater stream through human excretion, providing convenient and safe alternatives to the sewer or trash is a simple first step to reducing the amount of biologically-active pharmaceuticals entering the environment.

PH:ARM Pilot Overview and Results

The goal of the pilot was to demonstrate the viability, security, and convenience of a pharmacy-based collection model for unwanted household medicines, similar to programs operated by pharmaceutical manufacturers in other countries. The pilot also aimed to lay the groundwork for an ongoing statewide medicine return program provided by drug manufacturers.

Thirty-seven Washington State pharmacies and two boarding homes participated in the safe collection of unwanted medicines from household consumers, including prescription drugs, over-the-counter medicines, and nutritional supplements. Although the pilot was unable to accept controlled substances, comprehensive security protocols ensured that no diversion of medicines occurred from collection through final disposal. Group Health Cooperative collected medicines at 25 clinical pharmacies, and Bartell Drugs collected medicines at 12 retail pharmacies. Two boarding homes also started collection in the last two months of the pilot. From October 2006 to October 2008, the PH:ARM pilot collected over 15,000 lbs of unwanted medicines from residents. Prescription medicines accounted for more than half of all returned medicines, and over-the-counter drugs comprised 19 to 25 percent.

Satisfaction and demand for the medicine return program was high. Surveys indicated that 74 to 96 percent of Group Health and Bartell customers were willing to participate in the program. Pharmacy staff at Group Health and Bartells reported spending relatively little time on the program (between 15 minutes to two hours per week) and that it had little impact on staff workloads. Group Health and Bartell Drug have found the program so successful that they are continuing to offer the medicine return program on an interim basis; however, it is uncertain how long they will be able to continue funding the program.

By partnering with law enforcement, medicine return programs can collect narcotics and other controlled substances. Sheriffs in Clallam, Clark, and Snohomish Counties and police in several cities are operating drug take-back programs.

PH:ARM Team Members, Advisors and Partners

PH:ARM Partners:
Interagency Resource for Achieving Cooperation • Local Hazardous Waste Management Program in King County • Northwest Product Stewardship Council • Pacific Northwest Pollution Prevention Resource Center • Public Health – Seattle & King County •Snohomish County Solid Waste Division • Washington Citizens for Resource Conservation • Washington State Department of Ecology

PH:ARM Collection Site Partners:
Group Health Cooperative • Bartell Drugs • Two boarding homes in the Seattle area collected unused medicines from their residents only.

PH:ARM Advisors:
Washington State Board of Pharmacy • Washington State Department of Social and Health Services – Aging and Disability Services Administration

Key Findings

Community demand for safe disposal of medicines is high. With little advertising, a total of 15,798 pounds of unwanted medicines was collected from residents during the two year PH:ARM pilot at Group Health, Bartell Drugs and boarding homes. Since the beginning of the pilot, collected medicines now total over 35,000 pounds.

Pharmacy-based medicine return is convenient and effective. The PH:ARM pilot successfully demonstrated that pharmacy-based medicine return programs are convenient and easy to use. Pharmacy staff also found the program easy to accommodate as part of their work.

The Controlled Substances Act should be changed to allow collection of legally prescribed controlled substances at pharmacies. Under the federal Controlled Substances Act, the Drug Enforcement Administration (DEA) allows collection of controlled substances, such as OxyContin or Vicodin, only by law enforcement. In order to provide a convenient system for all prescription and over-the-counter medicines, the pilot team tried to obtain a DEA waiver for the project, but was unsuccessful. Federal legislation has been introduced to allow for more options to returning controlled substances. Meanwhile, a number of police and sheriff's offices in Washington are developing interim medicine return programs for controlled substances.

Returning medicines to a pharmacy with proper oversight and strict protocols can be safe and secure for any type of medicine, including controlled substances. The PH:ARM pilot successfully demonstrated that pharmacy-based medicine return programs are secure. The container developed by PH:ARM and the dVault Company effectively prevents retrieving medicines after they are deposited. A tracking system was successfully used to monitor containers holding medicines from the start of collection to their final disposal. Of the 2,400 buckets and boxes of medicines collected, no signs of tampering were found and no indications of attempted diversion occurred.

Medicine return programs can provide environmentally sound disposal of medicines. Medicines collected by the PH:ARM pilot were disposed via high temperature incineration, ensuring that these biologically active pharmaceutical compounds could not contaminate our environment. Medicines collected at Bartell Drugs were disposed at a hazardous waste facility, which is currently the safest way to dispose of unwanted medicines.

A statewide program could collect a substantial amount of unwanted medicines. Based on the results of a long-term, producer-funded medicine return program in British Columbia, a statewide medicine return program in Washington could collect an estimated 150,000 pounds of unwanted medicines annually (including the weight of pill containers).

Medicine return programs are cost-effective to operate. Pilot operation costs for two years at 37 pharmacies, including start-up expenses, were about $134,000. Outreach costs were $35,600. Overall costs associated with implementing the PH:ARM pilot should not be extrapolated to the costs of running a permanent, statewide medicine return program. However, when compared to sales of medicines in Washington, which are about $3.6 billion annually for prescription and over-the-counter medicines, the cost for a statewide medicine return program based on the PH:ARM model is low.

Sustainable funding is needed for a statewide medicine return program. The public and private grants which supported the PH:ARM pilot were short term and cannot fund an ongoing, statewide program. A sustainable funding source is needed to ensure that medicine return is available for all of Washington State residents. A producer responsibility model, similar to programs in British Columbia, Canada, and other nations, would finance a sustainable and safe medicine return program in Washington State