

NATIONAL WATER REUSE ACTION PLAN

COMPLETED ACTION

Action 2.9: Align Tools to Promote Best Management of Unused/Expired Pharmaceuticals



Background

Since at least 2000, monitoring has detected pharmaceuticals in waters all around the world, including trace amounts in treated wastewater as well as drinking water. Though pharmaceuticals are thought to be primarily entering the environment through excretion, reducing intentional sewer disposal is one mechanism to help reduce the environmental loading of pharmaceuticals into our Nation's waters ([Daughton and Ruhoy 2009](#)). Media coverage of pharmaceuticals in waterways can lead to public concerns about the safety of recycled water. Some recycled water applications, such as potable reuse, use advanced treatment technologies that fully remove pharmaceuticals. Other types of reuse, such as landscape irrigation, may use different levels of treatment needed to meet appropriate public health, environmental, or other fit-for-purpose specifications. Regardless, many water and wastewater agencies agree that minimizing inputs of pharmaceuticals to the waste stream is important to reduce concentrations in recycled water, drinking water, and the aquatic environment. Moreover, preventing pharmaceutical compounds from being unnecessarily discharged to the sewer can help reassure the public that recycled water can be safely used in their communities. One popular method to reduce loadings to wastewater facilities is to encourage the public to use takeback and mail-in options for disposal of unused pharmaceuticals.

Meanwhile, an explosion of opioid use in the U.S. is driving public health and law enforcement messaging on safe pharmaceutical disposal. The Office of National Drug Control Policy recognizes that proper disposal of unused medications is part of the solution to this public health crisis and encourages the implementation of takeback options. The U.S. Food and Drug Administration (FDA) primarily recommends use of takeback options, but also provides instructions for flushing medicines like opioids that, if stored in the home until a takeback option is available, pose a risk for misuse or can be especially harmful if accidentally ingested. FDA maintains a list of medications recommended for flushing (if a takeback option is not readily available) known as the "flush list." Some stakeholders believe the flush list recommendation creates conflicting messaging and is confusing for the public. Many local utilities and non-profit organizations have adopted slogans such as "No Drugs Down the Drain" and "Don't Rush to Flush" to educate the public to use options other than flushing.

Accomplishments

- Created a summary of pharmaceutical disposal online messaging used by over thirty federal, state, and local agencies and non-governmental organizations.
- Updated the Flush3P.org website to include information about keeping drugs out of wastewater and water.
- Developed two fact sheets aimed at the general public and local wastewater agencies about an EPA rule that bans flushing hazardous waste pharmaceuticals down the drain for certain types of healthcare facilities and reverse distributors.
- Supported a national survey of water and wastewater agencies and others in the water recycling community to learn what outreach materials and information are needed to enhance public education regarding chemicals of emerging concern (CECs) and pharmaceuticals.

Action Team

Action Leader

- **Los Angeles County Sanitation Districts**
 - Sharon Green (sgreen@lacsdsd.org)

Action Partners

- **American Water Works Association (AWWA)**
 - Adam Carpenter
- **Association of Metropolitan Water Agencies (AMWA)**
 - Erica Brown
- **National Association of Clean Water Agencies (NACWA)**
 - Cynthia Finley
- **National Stewardship Action Council (NSAC)**
 - Heidi Sanborn
- **U.S. Environmental Protection Agency (EPA)**
 - Kristin Fitzgerald
- **U.S. Food and Drug Administration (FDA)**
 - James Laurenson
- **WaterReuse Association (WaterReuse)**
 - Greg Fogel
 - Aliza Furneaux

Action Impact

A primary goal of Action 2.9 was to improve communication regarding best practices for drug disposal to minimize unnecessary introduction of pharmaceuticals into water. Consistent messaging will reduce confusion for the public, states, water and wastewater agencies, health industry professionals (e.g., doctors, pharmacists), law enforcement personnel, drug control and opioid crisis experts, and environmental and health advocates. The pharmaceutical [messaging summary](#) documents the different approaches to messaging used by various entities, depending on their role and perspective. For instance, law enforcement and public health authorities addressing the opioid crisis focus on safe medicine disposal and preventing diversion of controlled substances, while the Environmental Protection Agency (EPA) and local water and wastewater agencies tend to emphasize the potential for pharmaceuticals to enter water supplies and the environment. In its new Introductory Fact Sheet about EPA's ban on sewerage pharmaceuticals, EPA clearly explains the limited role for the FDA flush list and states that "EPA strongly discourages the sewerage of any pharmaceutical, with very few exceptions, by residents or by any type of facility." This message is a strong step towards alignment of the disparate messaging that was the genesis of this Action. FDA is also [considering action](#) to provide new convenient options for the public to ensure safe medicine disposal, as a preferred alternative to flushing. As a result of this Action, new information on [Flush3p.org](#) and the new EPA Fact Sheets will provide initial tools to convey messages to wastewater and water recycling stakeholders about best practices for pharmaceutical disposal and how to communicate them to the public. These activities form the foundation for future activities, identified below, by advancing the dialogue on recommendations for pharmaceutical disposal and improved understanding of issues of concern across agencies and stakeholders.

Action Implementation Process

The Action Team initially prepared the Action Implementation Plan, defining a set of milestones to support alignment of public messaging about pharmaceutical disposal. The team met monthly from June 2020 until Summer 2021 to explore the viewpoints and priorities that lead to disparate messaging, and hosted a speaker series to better understand topics such as how to develop a national public outreach campaign, how disposal instructions for medicine labels are developed, and the steps involved in setting up a drug take-back program. Subcommittees concurrently worked to implement several milestones. The Outreach Subcommittee supported WaterReuse-California's national survey on public education and outreach needs related to chemicals of emerging concern and pharmaceuticals. Another subcommittee identified outreach needs specific to the 2019 rule banning sewerage of hazardous waste pharmaceuticals and developed fact sheets to reach the target audiences.

Future Activity

- EPA and others will continue to disseminate the new Pharmaceutical Sewer Ban Fact Sheets to state and local pretreatment program staff and other audiences. These fact sheets can also help inform National Water Reuse Action Plan (WRAP) activities under Actions 2.4 and 8.7.
- Recommendations for development of new tools and resources are contained in "Communicating about Pharmaceutical and CEC Management in Recycled Water," a report by WaterReuse California's Communications Collaborative Group in support of Action 2.9. The report's findings and recommendations will be considered in carrying out Action 8.1, "Compile and Develop Outreach and Communications Materials."

Additional Resources

- www.Flush3p.org
- EPA's Ban on Sewering Pharmaceuticals fact sheets: [Introductory Fact Sheet](#); [Fact Sheet for Publicly Owned Treatment Works \(POTWs\)](#) (April 2022)
- [Communicating about Pharmaceutical and CEC Management in Recycled Water](#) (December 2021)
- [Safe and Proper Disposal of Unwanted Pharmaceuticals by Household Consumers: A Review of Website Messaging about Pharmaceutical Disposal](#) (July 2021)