
EVALUATION OF
PRESCRIPTION DRUG DISPOSAL
FEBRUARY 2024



OFFICE OF PROGRAM EVALUATION AND GOVERNMENT ACCOUNTABILITY
DEPARTMENT OF LEGISLATIVE SERVICES
MARYLAND GENERAL ASSEMBLY

Evaluation of Prescription Drug Disposal

**Department of Legislative Services
Office of Program Evaluation and Government Accountability
Annapolis, Maryland**

February 2024

Primary Staff for this Report

Allison Binder
Grant Mayhew
Michael Powell

For further information concerning this document contact:

Library and Information Services
Office of Policy Analysis
Department of Legislative Services
90 State Circle
Annapolis, Maryland 21401

Baltimore Area: 410-946-5400 • Washington Area: 301-970-5400

Other Areas: 1-800-492-7122, Extension 5400

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DEPARTMENT OF LEGISLATIVE SERVICES
OFFICE OF PROGRAM EVALUATION AND
GOVERNMENT ACCOUNTABILITY
MARYLAND GENERAL ASSEMBLY

Victoria L. Gruber
Executive Director

Michael Powell
Director

February 28, 2024

Senator Clarence K. Lam, M.D., Senate Chair, Joint Audit and Evaluation Committee
Delegate Jared Solomon, House Chair, Joint Audit and Evaluation Committee
Members of the Joint Audit and Evaluation Committee

Dear Senator Lam, Delegate Chang, and Members:

At the request of the Joint Audit and Evaluation Committee, the Office of Program Evaluation and Government Accountability has conducted an evaluation of prescription drug disposal in Maryland. This evaluation was performed consistent with § 2-1234 of the State Government Article.

Respectfully submitted,

Michael Powell
Director

MP/mpd

Legislative Services Building · 90 State Circle · Annapolis, Maryland 21401-1991
410-946-5560 · FAX 410-946-5508 · TDD 410-946-5401
301-970-5560 · FAX 301-970-5508 · TDD 301-970-5401
Other areas in Maryland 800-492-7122

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Evaluation of Prescription Drug Disposal

The Joint Audit and Evaluation Committee directed, pursuant to § 2-1234 of the State Government Article, that the Office of Program Evaluation and Government Accountability (OPEGA) conduct a performance evaluation of the role of the State of Maryland in the area of prescription drug disposal practices.

Objectives, Scope, and Methodology

Our evaluation objective was to answer the following question:

How do agencies of the Maryland State government contribute to the prescription drug disposal activities in the State?

The scope of our work involved an examination of the activities and programs administered, facilitated, or regulated by the Maryland Board of Pharmacy, the Maryland State Police (MSP), the Maryland Department of the Environment (MDE), and the Maryland Department of Health (MDH). Specific review included identifying the agencies that have a role in prescription drug disposal, interviews with staff members at State agencies, a comparison of available search methods for finding disposal locations, a review of State police data, research of other state laws and procedures for prescription drug disposal, and an examination of national Drug Enforcement Administration (DEA) drug take back efforts.

The issue of prescription drug disposal is not the exclusive purview of the State agencies described in this report and requires active participation from units of local government, private businesses, and federal agencies. Our scope of work did not include an examination of local government participation nor did it include a review of any implications of relevant federal law.

Introduction to Prescription Drug Disposal

When someone in Maryland has leftover or expired prescription drugs, options are available for safe disposal. Three of the main options available to the general public would be (1) dropping off prescription drugs at a permanent collection site; (2) taking prescription drugs to a drug take-back event; or (3) using a free disposal pouch that allows for safely dissolving drugs at home. Additionally, some prescription drugs have specific instructions for disposal, and the U.S. Food and Drug Administration maintains a “flush list” for medicines that are sought after for their misuse and/or abuse potential, and that can result in death from one dose if inappropriately taken.¹

¹ <https://www.fda.gov/drugs/disposal-unused-medicines-what-you-should-know/drug-disposal-fdas-flush-list-certain-medicines#1>

The abuse and/or misuse of prescription drugs, especially opioids, is a public health concern. According to the Maryland Overdose Dashboard, there were 353 overdose deaths from prescription opioids in the 12-month period ending September 2022. The 2018 National Survey on Drug Use and Health conducted by the Substance Abuse and Mental Health Services Administration showed that 9.9 million Americans misuse prescription drugs, and the majority receive those drugs from family, friends, or an accessible medicine cabinet.

The environmental impact of improper disposal is another public health concern. When prescription drugs are poured down the sink or flushed down the toilet, they go to wastewater treatment plants. These plants are not equipped to routinely remove the medications, which may leach into rivers, streams, groundwater, or drinking water sources.²

Observation: No State agency is responsible for overseeing prescription drug collection and disposal, to which at least five agencies contribute.

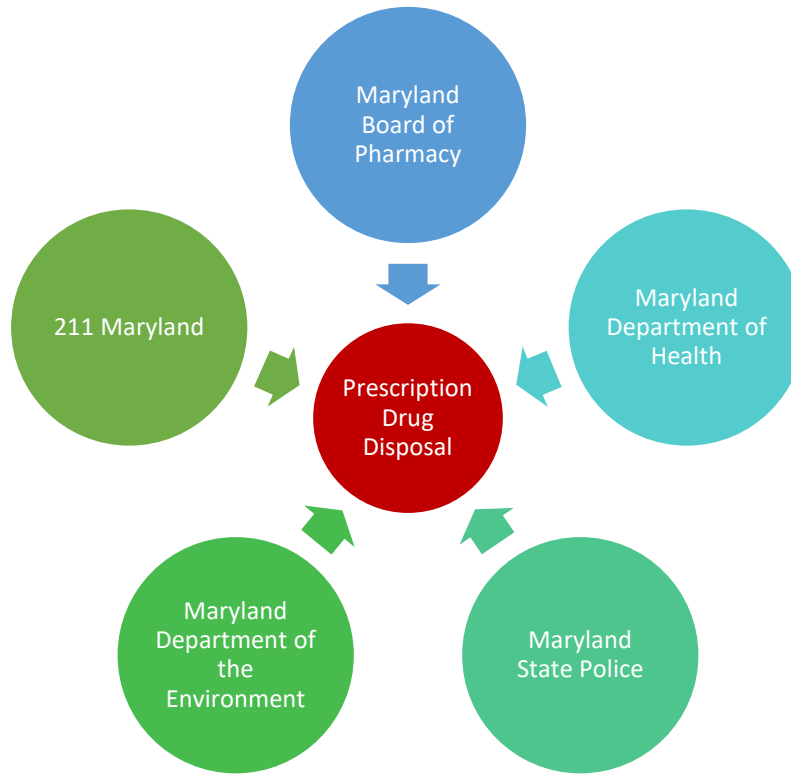
In Maryland, like in many other states, no specific agency handles all facets of prescription drug disposal. Various agencies contribute in different ways including promoting awareness, providing information, and the actual disposal itself. Statutory authority is granted to the Maryland Board of Pharmacy in the authorization and inspection phases of the drug disposal process conducted by entities regulated by the board. Maryland relies heavily on the voluntary activities of stakeholders, including participant pharmacies, in providing options for prescription disposal to its citizens.

Prescription Drug Disposal in Maryland

This evaluation examined the efforts of five different agencies involved with prescription drug disposal in Maryland. **Exhibit 1** and the following section lists these five entities, along with observations about the role of each with respect to prescription drug disposal in Maryland.

² Information posted on Maryland's 211md.org website: <https://211md.org/resources/substance-use/drug-disposal/#:~:text=The%20drugs%20go%20to%20a,getting%20into%20drinking%20water%20sources>.

Exhibit 1
Participants in Maryland's Prescription Drug Disposal Efforts



Maryland Board of Pharmacy

Observation: The Maryland Board of Pharmacy approves three types of repository pharmacies under the Maryland Health General Article Section 15-601.

The Maryland General Assembly established the Prescription Drug Repository Program in 2007. The original intent of the legislation was to address drug affordability and accessibility issues through the redistribution of a small number of eligible prescription drugs. In 2011 the statute was expanded to include the authorization of disposal functions for retail pharmacies in response to the growing concern about the opioid crisis.

Currently the three types of authorized repositories approved through the Board of Pharmacy are:

- pharmacy repositories approved for re-dispensing;

- pharmacy repositories approved for disposal of controlled dangerous substances (CDS), non-CDS, and medical supplies; and
- pharmacy repositories approved for disposal of non-CDS and medical supplies.

Applicants may be approved for receipt of medications for redistribution or disposal but not both. A pharmacy may be approved for controlled and noncontrolled substance disposal, or just noncontrolled substance disposal. The distinction carries implications for security requirements and DEA regulations. The board conducts initial inspections of applicant repository facilities but does not do so at regular intervals after approval. A complaint would trigger an inspection by the board.

Observation: There are 237 pharmacies that are approved for disposal, and only 2 approved for re-dispensing.

The Board of Pharmacy publishes a list of participating pharmacies on their website by category of repository. **Exhibit 2** shows the number of approved repositories by authorization type:

Exhibit 2

Maryland Board of Pharmacy Approved Drug Repository by Type

Pharmacy Repositories Approved for Disposal of CDS, non-CDS, and Medical Supplies	219
Pharmacy Repositories Approved for Disposal of non-CDS and Medical Supplies	18
Pharmacy Repositories Approved for Re-dispensing	2

CDS: controlled dangerous substance

Source: Maryland Board of Pharmacy; Department of Legislative Services

A pharmacy approved to receive CDS is required to be registered with DEA and have a receptacle that is bolted to the ground or wall and cannot be moved around or accessed on the inside, similar to a mailbox. **Exhibit 3** shows an example of this type of box from a CVS. The list of which pharmacies may accept CDS for disposal was updated on the Board of Pharmacy website during this evaluation. At the start of our evaluation in June 2023, the website listed less than 50 pharmacies in Maryland. During our evaluation the Board of Pharmacy updated its website to show 237 pharmacies as approved repositories. The board also included a change to the website that organized the previous list into three separate lists illustrating the distinction between those pharmacies that can take both CDS and non-CDS and those that can only take non-CDS. There are a total of 237 pharmacies that are approved by the Maryland Board of Pharmacy for disposal. Most of these pharmacies (219) can accept both CDS and non-CDS. A smaller number can only accept

non-CDS (18). Only two pharmacies are approved for re-dispensing. There is no data available on the amount of material returned to participating pharmacies.

Exhibit 3 Controlled Substance Disposal Receptacle



Source: <https://patch.com/connecticut/brookfield/ct-state-police-offer-drop-boxes-unused-medications-0>

Maryland Department of Health

MDH contains multiple units that play roles in prescription drug disposal. In response to this evaluation, MDH provided OPEGA with information on three administrations/offices under their jurisdiction that have active roles in prescription drug disposal. MDH highlighted:

- Public Health Services Administration: Office of Controlled Substances Administration
 - oversees and enforces the Maryland Controlled Dangerous Substances Act³
- Public Health Services Administration: Office of Population Health Improvement, Local Substance Use Prevention Unit
 - provides grant funding to the 24 local health authorities in Maryland to implement substance use prevention activities
- Behavioral Health Administration
 - disseminates drug disposal kits;

³ MD. Criminal Law Code § 5-101 (2022)

- advertises drug take back days organized by participating agencies; and
- collaborates with Maryland's Office of Overdose Response, formerly Opioid Operational Command Center, to provide medication disposal information.

Further information was obtained about the Office of Population Health Improvement, particularly their administration of the Opioid Misuse Prevention Program (OMPP) and how it relates to prescription drug disposal. OMPP allocates grant funding to 17 specific jurisdictions in Maryland and one regional award to the Mid-Shore to be used to enhance local overdose prevention plans and implement evidence-based prevention strategies. Conversations with a local health department conveyed that proper disposal of prescription drugs is a part of their strategy and included actions such as providing drug disposal bags that allow for safely dissolving medication at home, community outreach events, and working with local law enforcement on safe and secure disposal.

Maryland State Police

Observation: The Maryland State Police barracks have prescription drug drop-off boxes and hold biannual drug take back events.

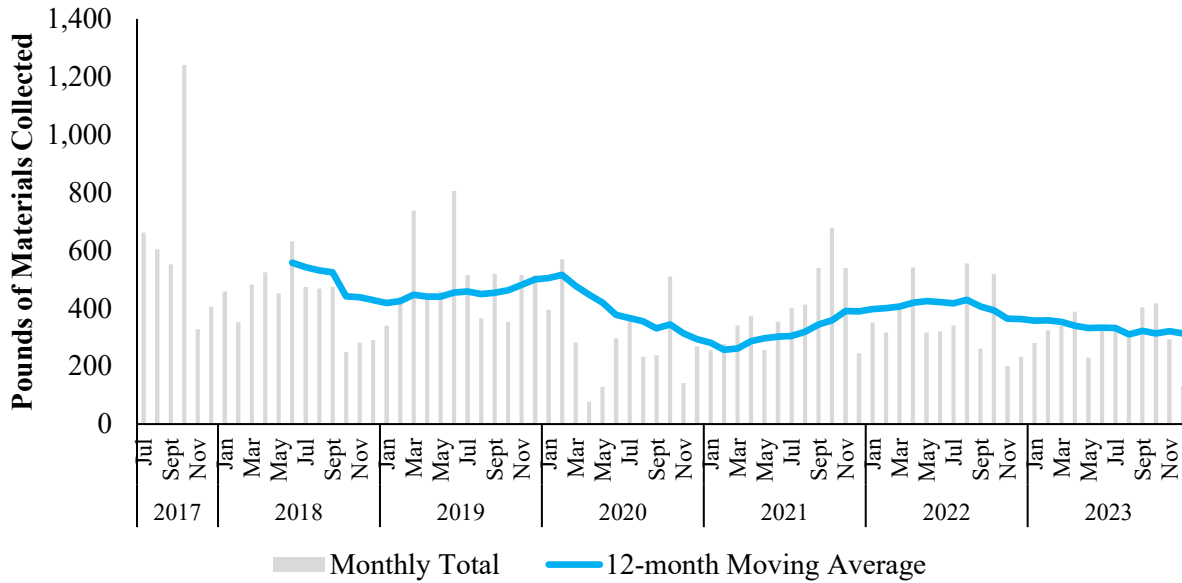
In 2017, the 23 MSP barracks across the State were equipped with secure drug collection boxes for medication drop-off. Drug collection boxes are in the front lobby of each barrack, within view of the barrack duty officer, and always accessible to the public. No contact is made with an individual making a deposit. These boxes have labels that indicate what may be permissibly disposed of and what items are prohibited; however, the deposits are not inspected for adherence to the label specifications. MSP weighs and then disposes of the box's contents by taking them to an incineration facility.

MSP plans two drug take back events each year. These events push for the general public to bring their expired or unused prescription drugs to a specific location for MSP collection and disposal. The total collection of materials dropped off at these events are weighed prior to disposal. These take back events are done in conjunction with DEA National Prescription Drug Take Back Days.

Observation: The amount of prescription drugs collected at MSP barracks has declined by over 40% since 2018.

Exhibit 4 shows the monthly weight totals reported as having been collected from the disposal receptacles at MSP barracks. Not all barracks report monthly, and this is accounted for by the running monthly average seen as the blue line on the graph.

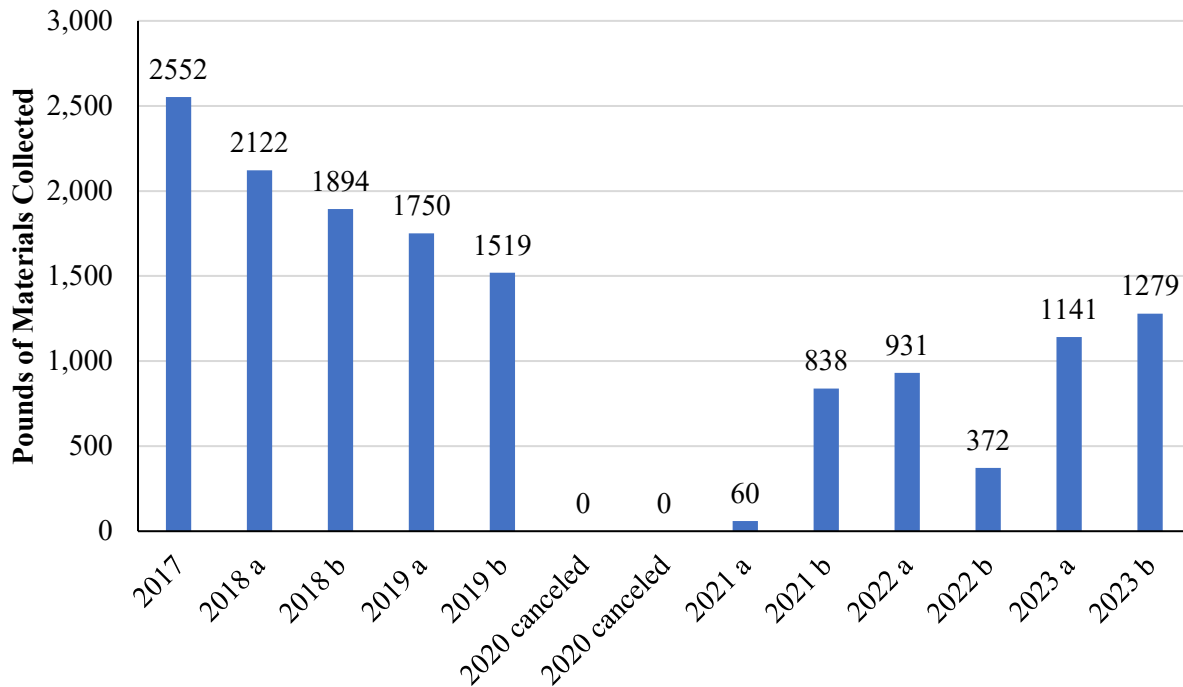
**Exhibit 4
Maryland State Police Medical Disposal Program Weight Log**



Source: Maryland State Police; Department of Legislative Services

Exhibit 5 shows the weight of materials collected at MSP drug take back events between 2017 and 2023. The largest amount of material collected came in 2017, measuring 2,552 lbs. The amount of material collected decreased with each event in 2018 and 2019. After the cancellation of both events in 2020, the events in 2021 and 2022 recorded total material return weights under 1,000 lbs. In 2023, the materials collected at MSP take back events were over 1,000 lbs.

Exhibit 5 Maryland State Police Drug Take Back Events



Source: Maryland State Police; Department of Legislative Services

Maryland Department of the Environment

MDE focuses on the impact of improper prescription drug disposal on the environment. Their website contains a link to a PDF brochure titled Say No! to Drugs in the Environment, Pipes and Pills Don't Mix. Key points of this brochure include⁴:

- drugs like opioids can be scavenged and illegally used or sold or could poison children and animals;
- unused medications improperly disposed of can harm you and your environment;
- when drugs are flushed, they may not be broken down by the wastewater treatment facilities and septic tank systems and can enter the soil, surface water, and groundwater in public drinking water supplies;

⁴ <https://mde.maryland.gov/PublicHealth/PublishingImages/pilldisposal2.pdf>

- research studies have shown that exposure to drugs found in waterways can have adverse impacts on certain species and other aquatic life; and
- simply preventing pollution is preferable to cleaning up the environment and minimizes public cost and human and ecological exposure.

The website also shares guidance from the U.S. Environmental Protection Agency (EPA) on properly disposing of medicines. The two methods suggested by EPA are to (1) take prescription drugs to drug take back events and (2) proper household disposal. **Exhibit 6** gives the step-by-step process promoted by the EPA for proper household disposal.

Exhibit 6 EPA Guidance for Drug Disposal in Household Trash



1. Take your prescription drugs out of their original containers.



2. Mix drugs with an undesirable substance, such as cat litter or used coffee grounds.



3. Put the mixture into a disposable container with a lid, such as an empty margarine tub, or into a sealable bag.



4. Conceal or remove any personal information, including Rx number, on the empty containers by covering it with permanent marker or duct tape, or by scratching it off.



5. The sealed container with the drug mixture, and the empty drug containers, can now be placed in the trash.

EPA: Environmental Protection Agency

Source: United States Environmental Protection Agency

The MDE website also provides links to a map of MSP barrack locations, county-specific drug disposal locations, and information on DEA take-back days.

211 Maryland

Maryland contracts with a nonprofit to operate the Maryland Information Network, which connects Marylanders to health and human services resources through 211 Maryland. Specific to prescription drug disposal, an individual can find information in the following ways:

211md.org Website⁵

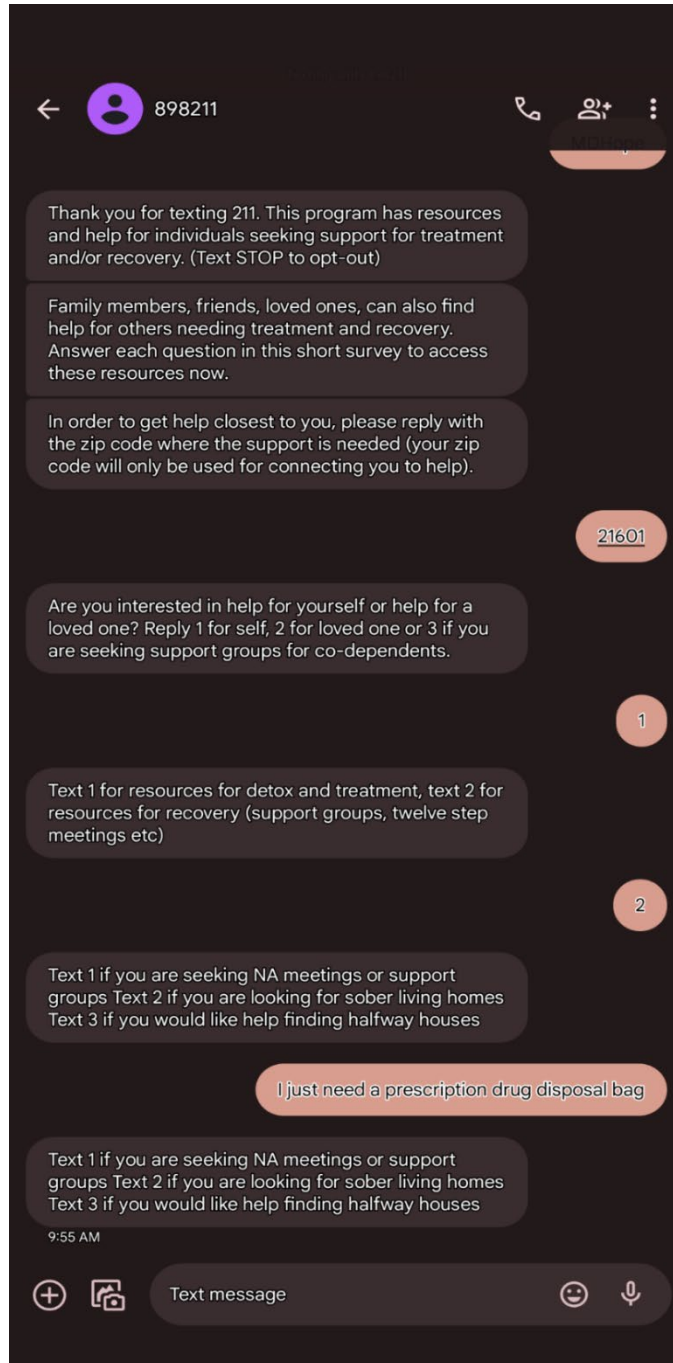
The 211 Maryland website offers general information on why an individual should properly dispose of medication and how they should do it. One of the ways to dispose of prescription drugs that is promoted on the site is to use a disposal pouch. In partnership with Rx Abuse Leadership Initiative, 211 directs people to text MDHope to 898-211 to request a free disposal pouch that allows for safely dissolving medication at home. Added instructions say to Press 1 for education/prevention and then 3 for safe prescription disposal.

Observation: 211 Maryland provides information on prescription drug disposal via their website or by calling 211. An attempt to obtain a prescription drug disposal bag via text was unsuccessful.

Exhibit 7 shows an unsuccessful attempt to obtain a free disposal pouch. Note that the instructions to press 1 and then 3 may not align with the choices given to the individual texting.

⁵<https://211md.org/resources/substance-use/drug-disposal/#:~:text=Text%20MDHope%20to%20898%2D211,information%20or%20provide%20disaster%20alerts>.

Exhibit 7 211 Chat for Drug Disposal Resources



Source: Department of Legislative Services

Calling 211

OPEGA called 211 in summer 2023 to ask for guidance in disposing of prescription drugs. The call taker was unable to provide any information; however, they called OPEGA back within an hour with some guidance.

Observation: Each agency publishes independent information on its website about available locations for disposal.

The agencies identified as playing a role in prescription drug disposal efforts in the State provide information on their websites. Each provides information about where to bring prescription drugs for disposal. This information varies.

Information on Where to Dispose of Prescription Drugs from Involved Agencies

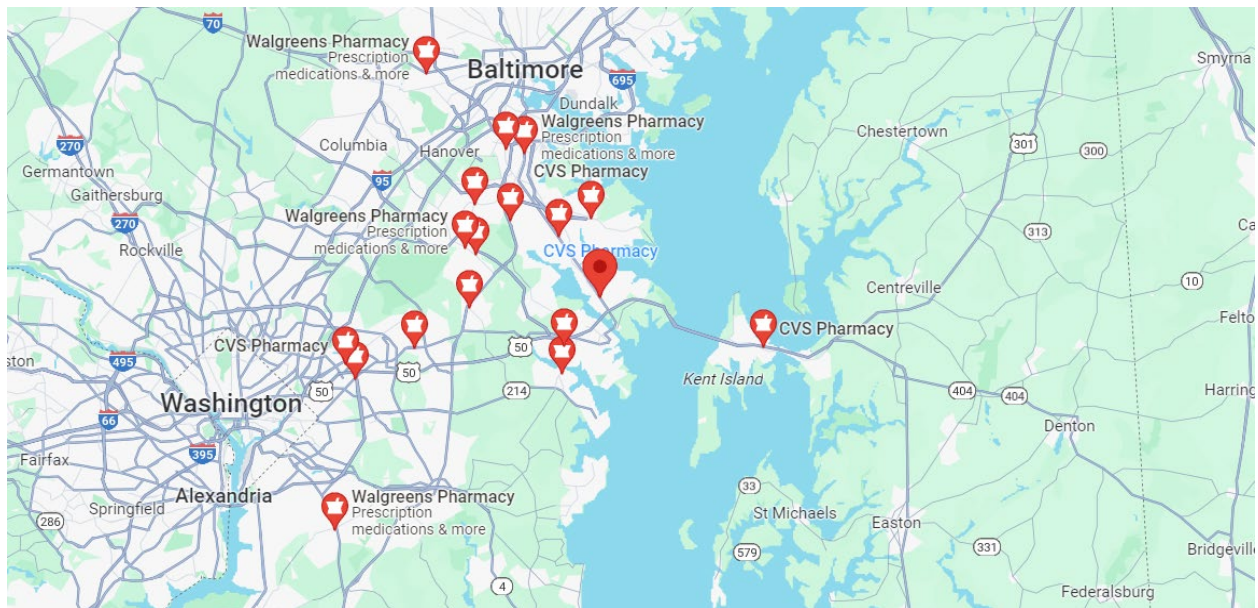
Agency	Locator Tools
Maryland Board of Pharmacy	The Board of Pharmacy provides a list of pharmacy names and addresses of disposal locations
Maryland Department of the Environment (MDE)	<p>MDE provides 3 resources on disposal locations in the For More Information section of its website.</p> <ul style="list-style-type: none"> • MDE created pdf with links to local resources and other information listed by county • Link to Maryland State Police website listing all 23 barracks locations • Dead link to the Drug Enforcement Administration (DEA) search tool
Maryland Department of Health	<p>The Behavioral Health Administration provides lists of disposal sites in pdf form divided by region; Eastern, Central, Southern, Western.</p> <ul style="list-style-type: none"> • Lists are almost exclusively law enforcement locations
Maryland State Police 211	<p>No specific references to prescription disposal</p> <p>On the page dedicated to prescription drugs:</p> <ul style="list-style-type: none"> • Link to DEA zip code search • Link to a Walgreens search engine that allows for a zip code search • Link to RxDrugdropbox.org which allows for a zip code search showing law enforcement and pharmacy drop locations • Link to National Association of Boards of Pharmacy allows for a zip code search <p>On the 211 Get Help section of the website:</p> <ul style="list-style-type: none"> • Searchable “Get Help” tab allows for a selection of “Prescription Drug Return/Reuse/Recycling Programs” for a zip code search • This search produces detailed results

Federal Role in Prescription Drug Disposal

The Secure and Responsible Drug Disposal Act

The Secure and Responsible Drug Disposal Act of 2010 (Disposal Act) was passed as an amendment to the Controlled Substance Act (CSA) and authorized DEA to promulgate regulations within the framework of the CSA that allows end users to deliver unused pharmaceutical controlled substances to appropriate entities for disposal in a safe and effective manner. The regulations from DEA explicitly authorized drug manufacturers, distributors, reverse distributors, narcotic treatment programs, hospitals/clinics with onsite pharmacies, and retail pharmacies to voluntarily administer mail-back programs and maintain collection receptacles onsite for the disposal of controlled prescription drugs. The Disposal Act provides only for the collection of controlled substances. Noncontrolled substance prescription disposal is left to the states. In line with national and state oversight, pharmaceutical chains will generally maintain collection boxes for medication disposal. **Exhibit 8** shows the result of a typical Google search of “drug disposal near me” as a map that predominately shows these national chain pharmacies as options.

Exhibit 8
Google Search Results for “Drug Disposal Near Me” Search



Source: Department of Legislative Services

National Prescription Drug Take Back Days

In 2010, DEA began to coordinate bi-annual National Prescription Drug Take Back Days to combat the drug overdose epidemic in the United States. These days occur in April and October of each year. The DEA maintains a website, [dea.gov/takebackday](https://www.dea.gov/takebackday), that provides resources to help dispose of unneeded medications, seek treatment for substance use disorders, and learn more about drug overdose in the United States.⁶ Exhibit 9 shows a screenshot of a public service announcement created for the most recent National Prescription Drug Take Back Day on October 28, 2023.

Exhibit 9 Screenshot of National Prescription Drug Take Back Day Public Service Announcement



Source: Drug Enforcement Administration; Department of Legislative Services

DEA tracks the results of these take back days by a count of each state's:

- total law enforcement participation;

⁶ <https://www.dea.gov/takebackday>

- total number of collection sites; and
- total weight of the materials collected.

Exhibit 10 shows a table of what DEA shows as Maryland’s results over the last six National Take Back Days.

**Exhibit 10
DEA National Take Back Day**

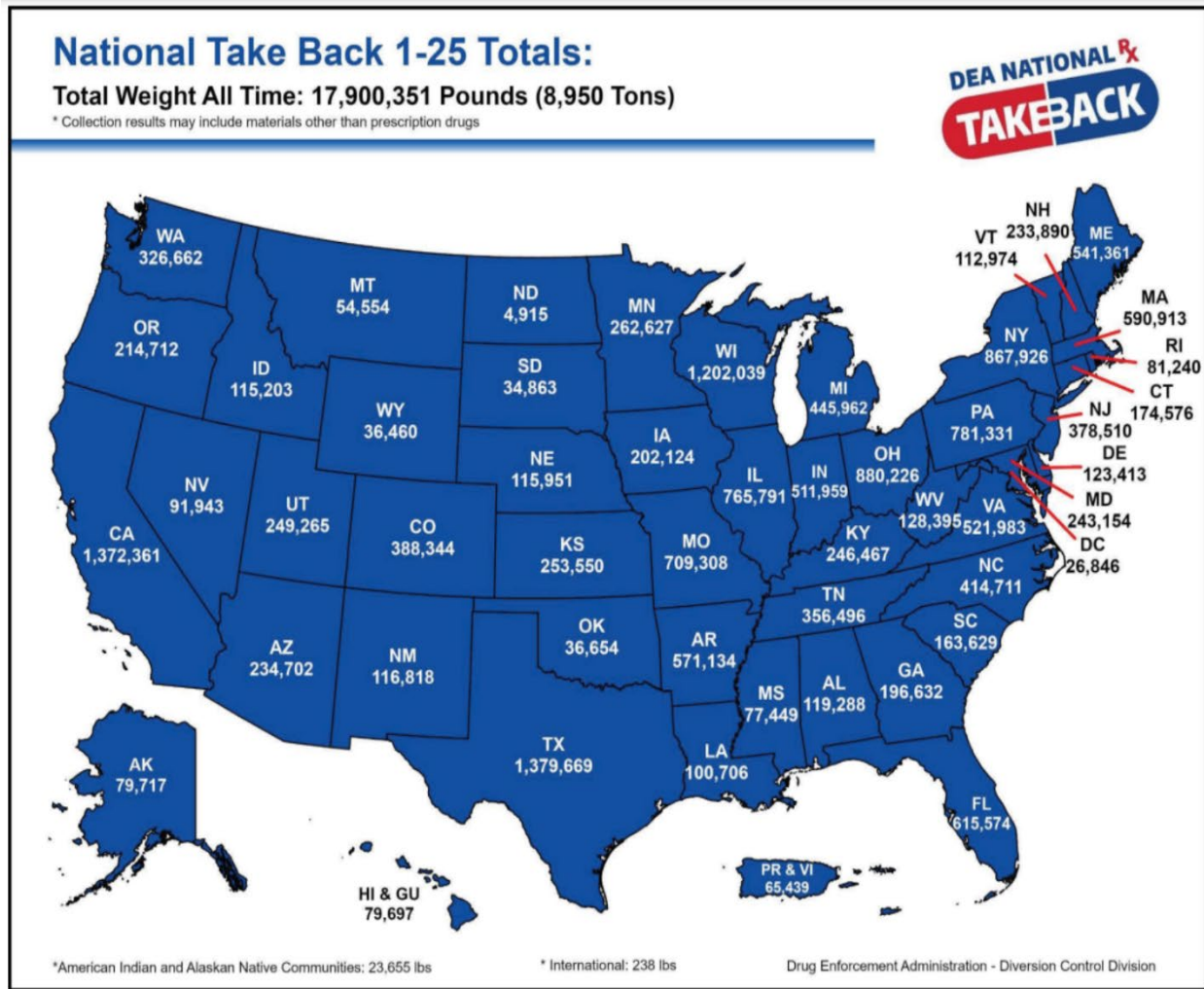
	<u>Maryland Law Enforcement Participants</u>	<u>Maryland Collection Sites</u>	<u>Maryland Weight of Materials Collected (lbs)</u>
25th National Take Back Day October 28, 2023	33	110	10,599
24th National Take Back Day April 22, 2023	27	101	11,745
23rd National Take Back October 29, 2022	35	108	8,551
22nd National Take Back Day April 30, 2022	36	101	10,922
21st National Take Back Day October 23, 2021	33	105	10,349
20th National Take Back Day April 24, 2021	32	76	11,536

DEA: Drug Enforcement Administration

Source: Drug Enforcement Administration; Department of Legislative Services

During the 25 DEA National Take Back Days hosted to date, 243,154 pounds of material has been collected in Maryland. This ranks as the twenty-fifth most weight collected at these events all-time among the states. **Exhibit 11** shows a map of the total weight collected all time for each state. Please note the asterisk on the graphic, which points out that collection results may include materials other than prescription drugs.

Exhibit 11 DEA National Takeback Weight Totals



Source: Drug Enforcement Administration; Department of Legislative Services

Disposal Efforts in Other States

Disposal efforts in other states vary but are generally supplemental and complimentary to the efforts of DEA and federal programs for disposal of controlled substances. More than half of states have statutory or administrative regulations for prescription drug disposal. These programs are subject to federal law and regulations. There are three main mechanisms for prescription drug disposal utilized by jurisdictions:

- **Take Back Programs:** Many states have established drug take back programs where individuals can drop off unused or expired medications at designated collection sites. These sites are often located at pharmacies, law enforcement agencies, or other community locations.
- **Pharmacy Drop Boxes:** Some pharmacies provide drop boxes for the safe disposal of prescription drugs. These boxes allow individuals to deposit their unused medications for proper disposal. Several states have product stewardship models that require pharmaceutical companies operating in the state to pay for drop boxes.
- **Mail Back Programs:** Some states have mail back programs that allow individuals to request prepaid mailers to send their unused prescription drugs for proper disposal.

Observation: Eight states have adopted product stewardship models for drug disposal.

Since Massachusetts became the first state to institute a drug take back program funded by pharmaceutical companies in 2016, other states have adopted product stewardship models for drug disposal through legislation that requires pharmaceutical industry funding for disposal programs. As of January 1, 2024, there are eight programs of varying types. These programs usually include the provision of disposal kiosks, take back events, mail back programs, provision of materials for disposal and others. In general, pharmaceutical companies doing business in these states must register with the agency in charge of the drug stewardship program, and the monies paid to the state fund agency efforts and overhead to oversee private companies contracted to run the disposal activities in the state.

The following are examples of states that have legislation enabling product stewardship for prescription drugs.

- **Illinois:** Take-Back Act (2023): Beginning December 1, 2023, every Illinois county will be entitled to at least one medication collection location per 50,000 residents that is financed by pharmaceutical manufacturers. These collection locations will accept both controlled and noncontrolled substances free of charge.
- **Washington:** Safe Medication Return: Safe Medication Return is a statewide system that gives Washington residents free, convenient, and environmentally responsible options to

dispose of unwanted medication. The program is funded by drug manufacturers that pay for Department of Health and program operator expenses. There is no cost to taxpayers.

The Department of Health oversees the program. This includes monitoring operations, enforcing compliance, and evaluating program effectiveness. The department also reviews potential program operators' proposed plans and approves or rejects those plans based on statutory and rule requirements.

Program operators implement the program according to plans approved by the department. Washington has two approved program operators.

- **Oregon:** Drug Take-Back Law: In Oregon, manufacturers of covered drugs sold within Oregon are required to participate in the statewide drug take back program for the collection, transportation, and disposal of covered drugs that is available to covered entities free of charge. Program operators, who will develop and implement such programs, must submit proposed program plans to Department of Environmental Quality for approval. Each plan must demonstrate that the program will provide statewide, convenient, safe, and secure collection, management, and disposal of covered drugs in compliance with the Drug Take-Back Law and all other applicable state and federal regulations.
- **New York:** Drug Take Back Act (2018): In New York state, manufacturers must establish, fund, and manage a state approved drug take back program for the safe collection and disposal of unused covered drugs. Pharmacies of 10 or more brick and mortar locations and out-of-state pharmacies that provide covered drugs by mail must implement these programs to provide consumers with options for collection and disposal.