

## CHAPTER 12

# HOUSEHOLD DISPOSAL OF PRESCRIPTION DRUGS

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The amount of unused, unwanted, and expired medications is a growing problem that is significantly impacting our healthcare system. Not only is it costly, but the health and safety of patients and our environment is being affected. One recent study found that approximately 2 out of 3 prescription medications per household were unused.<sup>1</sup> The most common reason cited by study participants was discontinuing use because of improvement in their medical condition and/or symptoms. Other reasons included side effects, expiration, felt it wasn't helping, felt they no longer needed to take it, or forgot to take it. Noncompliance is a major contributing factor to the volume of unused/unwanted medications and it is costing the United States about \$100 billion per year in extra medical costs.<sup>2</sup> According to a 2010 bulletin published by the World Health Organization, only about half of the population takes their medications correctly. Additionally, more than half of prescriptions are prescribed, dispensed, or sold inappropriately, further contributing to household possession of excess medications.<sup>3</sup>

Medications left unused in the home pose potential safety concerns. For example, if an elderly patient has multiple medication bottles in their medicine cabinet they are at a greater risk for inadvertently taking the wrong drug or duplicating therapy.<sup>4,5</sup> Accidental ingestion is also a concern.<sup>5</sup> There have been over 30 reports received by the FDA of accidental exposure to fentanyl patches, a potent opioid analgesic. Most of these involved small children less than 2 years old that resulted in hospitalization or death.<sup>6</sup> Drug overdose is another safety concern; it's the leading cause of death by injury according to the CDC.<sup>7</sup> Having excess medications laying around the home also leads to diversion.<sup>5</sup> When a national survey asked nonmedical users of opioids where they obtained their drugs, more than 50% said a family member or friend gave it to them, over 10% bought them from family or friends, and about 5% just took them.<sup>4</sup> Therefore, properly disposing of unused, expired, and unwanted medications is important to help minimize the risk of accidental exposure, intentional misuse, or diversion.

Studies have found that consumers don't always know how to dispose of medications properly, nor do they remember receiving education on proper storage and disposal.<sup>1,8</sup> The majority either throw them away in the trash or use the toilet or sink for disposal.<sup>7</sup> Such

practices have been questioned in terms of their safety and appropriateness.<sup>9</sup> Disposing of medications via sink or toilet has a negative impact on rivers, streams, and supplies of drinking water. A US Geological Survey that studied water in Minnesota found organic contaminants in 90% of the samples tested, most of which were prescription and nonprescription medications.<sup>10</sup> Although not at therapeutic levels, active therapeutic ingredients in water could be dangerous not only to humans but to wildlife as well.<sup>11</sup> Disposing of unwanted medications in the trash has its own set of concerns. Throwing away prescription bottles with personal, patient information on the label can lead to identity theft. It can also be a source of accidental exposure by children and animals or contribute to drug diversion.

Various organizations have developed programs or guidelines on the proper disposal of medications, including the Office of National Drug Control Policy in conjunction with the Food and Drug Administration (FDA). These federal guidelines suggest:<sup>12</sup>

- taking advantage of pharmaceutical take-back programs in the community
- using appropriate safeguards when throwing away medications in the trash
- flushing drugs down the toilet or drain ONLY if advised by the FDA and/or instructed by printed material accompanying the medication

## **COLLECTION PROGRAMS**

Drug take-back programs are the preferred method for disposing medications.<sup>4,5,12</sup> These programs allow consumers to bring their unwanted and expired medications to a central location for proper disposal. Collection events are designed to ensure that unused, expired, or unwanted medications are collected anonymously and destroyed in a way that is safe, legal, and environmentally sound.

There are various types of take-back programs available, ranging from small, one-day events to on-going collection sites. City, county, and state sponsored take-back programs are available. One such event is the National Prescription Take-Back Event hosted by the Drug Enforcement Administration (DEA) twice a year, once in the spring and again in the fall.<sup>13</sup> These events have been extremely successful. In April of 2017, the DEA, along with more than 4,000 state and local law enforcement partners, held its 13<sup>th</sup> Take-Back event which collected over 900,000 pounds of unwanted medications across 50 states.<sup>14</sup> The DEA's take-back events began in 2010 with the passing of the Secure and Responsible Drug Disposal Act which was intended to help address the growing prescription drug abuse epidemic. According to a

recent National Survey on Drug Use and Health, 6.5 million Americans abuse prescription drugs.<sup>15</sup> As mentioned previously, the majority of abused drugs are obtained from family and friends. Therefore, it's extremely important to get rid of unwanted, unused medications. In the past, however, only law enforcement officials were allowed to take-back and inventory controlled substances at collection events. This act gave the DEA authority to expand ways in which the general public can dispose of medications, including controlled substance prescriptions, safely and conveniently.

In October of 2014, the DEA's revisions to the Controlled Substance Act were implemented. The Disposal of Controlled Substances Rule now allows authorized collectors to accept unwanted, unused, or expired prescription medications, including controlled substances, by providing collection receptacles and/or mail-back programs.<sup>16</sup> Medications can only be placed in the receptacles or mailed by *ultimate users* which is defined as "a person who has lawfully obtained, and who possesses, a controlled substance for his own use or for the use of a member of his household."<sup>17</sup> Pharmacy staff are not allowed to do it on their behalf. So who is considered an authorized collector? Facilities, such as retail pharmacies, hospitals and clinics with on-site pharmacies, narcotic treatment programs, long-term care facilities with pharmacies, manufacturers and distributors can volunteer to become an authorized collector simply by modifying their DEA registration. Many law enforcement or police stations are authorized collection sites as well.

Facilities that choose to have collection receptacles must follow certain requirements. Receptacles must:<sup>16</sup>

- have tamper-evident, waterproof, tear-resistant inner liners
- be securely fastened to a permanent structure so that it cannot be removed
- be placed in a location that is not only be accessible to the public but where employees are present

Pharmacies that choose to offer mail-back programs can sell or provide at no cost prepaid, pre-addressed mail-back packages. Packages must:<sup>16</sup>

- be nondescript, water- and spill-proof, tamper-evident, tear-resistant, and sealable
- include a unique identifier that can be tracked
- sent to authorized collectors that destroy medications on-site

Information about take-back programs in your area can be obtained by contacting local waste management agencies. Online resources, such as Dispose My Meds, DEA's Office of Diversion Control, US Environmental Protection Agency, and Recycle Indiana – Unwanted

Medicine, are also helpful for locating pharmacies and authorized collection sites with options for safe disposal of unwanted, unused, and expired medications.

## **HOUSEHOLD DISPOSAL**

In the event that a take-back program or authorized collector is not available, most medications can be disposed of in the household trash. Several agencies, including the FDA, DEA, and EPA recommend the following steps for properly disposing of unwanted, expired, and unused medications:<sup>5,18</sup>

1. Take drugs out of their original containers.
2. Mix the medications with a substance that is unpalatable and undesirable, such as dirt, kitty litter, or used coffee grounds.
3. Place the mixture into a disposable container, such as a sealable bag.
4. Throw the sealed container away in the household trash.
5. Remove, cover with permanent marker, or scratch out all personal information on the prescription label of the empty pill bottles and medicine packages to make it unreadable before placing them in the trash.

## **FLUSHING**

Not all medications should be thrown away in the trash if a take-back event or collection receptacle is not available. The FDA recommends disposing of certain medications by flushing them down the toilet or sink. There is a small list of medications that are considered life-threatening if taken by someone other than the person for whom it's intended.<sup>17,18</sup> These drugs are mostly high-potency opioid analgesics and other controlled substances that are not only dangerous if accidentally ingested by a child or pet, but are more likely to be associated with drug diversion and misuse. Examples include fentanyl, morphine, and oxycodone. The most complete and up-to-date list of medications recommended for disposal by flushing can be found on the FDA's webpage on Disposal of Unused Medication.<sup>18</sup>

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