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SAFE MEDICATION DISPOSAL IN UNDERSERVED COMMUNITIES

Elaina Etter (*College of Pharmacy*)

STUDENT AUTHOR BIO SKETCH

Elaina Etter is a fourth-year professional student in the Purdue University College of Pharmacy. She has been involved with the American Pharmacists Association–Academy of Student Pharmacists (APhA-ASP) for the past two years, where she discovered a passion for educating her surrounding community. In her role as this organization’s over-the-counter medication safety chair, she developed outreach programs that aimed to decrease medication-related harm throughout the Greater Lafayette area. In this article, she shares her experience educating patients about proper medication disposal as part of the nationwide initiative known as National Drug Takeback Day.

INTRODUCTION

Per current trends, 46 people will die each day from prescription opioid overdose (CDC, 2018). This mortality rate is partially due to the overprescribing of prescription pain medications, which creates an excess of potentially dangerous and extremely addictive medications in communities all across the United States. The prescription medication abuse epidemic impacts every corner of our communities—from children who suffer accidental exposure to patients battling addiction who received their first dose from the medicine cabinet of family or friends. To combat accidental exposure and the development of addiction, the U.S. Drug Enforcement Administration (DEA) developed a countrywide drug disposal initiative known as National Prescription Drug Takeback Day (DEA, n.d.).

National Prescription Drug Takeback Day provides resources that instruct patients about how to safely dispose of unwanted medications and increase community awareness about prescription drug misuse. Two dedicated takeback days occur each year, with temporary drug disposal sites operating throughout the day. Online

resources allow patients to enter their location and find drug disposal sites near them, such as hospitals, community pharmacies, and police stations (DEA, n.d.). However, some patients remain limited in their disposal resources because of remote geographical locations or lack of transportation.

Rural areas often have particularly limited drug takeback options. Many of these areas lack healthcare resources, such as hospitals and pharmacies, which are key facilitators of medication disposal. Federally qualified health centers (FQHCs) are often the only healthcare resource to remote populations, so they offer a particularly interesting opportunity for drug disposal education. The Family Health Clinic, a local FQHC, was founded in 1995 to serve patients in Carroll County with limited access to primary care. Today, this clinic serves rural populations throughout north-central Indiana at its four locations in Burlington, Delphi, Monon, and Wolcott. In order to allow entire families to receive care at a single location, each clinic provides comprehensive services that accommodate patients of any age. Many of the patients who visit the clinics are low income, underinsured, or uninsured and may otherwise be unable

to access medical resources. The mission of the clinic remains to provide all individuals access to quality healthcare. In addition to providing care in underserved communities, the Family Health Clinic trains nursing students, pharmacy students, and pharmacy fellows annually at each site. Because the Family Health Clinic demonstrates a passion for educating young healthcare professionals and serves patients who face barriers to safe medication disposal, this site is ideal for a community outreach involving pharmacy students.

I first learned about barriers to medication disposal through courses offered by the Purdue University College of Pharmacy. In *Beyond Ecstasy* (PHPR 486), I learned how unused prescription medications can become illicit drugs. I explored some of the reasons that patients avoid disposing of unwanted medications, such as environmental protection groups who advocate against flushing medications. This class was my first exposure to the potential controversy around medication disposal—an issue that seemed so black and white in my profession. In *Health Policy Applications* (PHRM 870), I learned how pharmacists can enable medication disposal by securing drug drop-off boxes for outpatient pharmacies. Even this solution is not without its issues, as some of these devices are extremely expensive. I felt motivated to use my education and voice to address the stigma and remove the barriers surrounding medication disposal.

DESCRIPTION

My community engagement involving medication safety began at Purdue's chapter of the American Pharmacists Association—Academy of Student Pharmacists (APhA-ASP). I became involved in monthly presentations to local fifth grade students about over-the-counter (OTC) medication safety during my second professional year. I uncovered a passion for enhancing patient safety through education, and particularly enjoyed how these presentations transformed what I was learning in pharmacy school to practical applications that could be utilized by my community. At the start of my third professional year, I became the chair of the OTC Medication Safety Committee. It was through this position that I first met Nira Kadakia, PharmD.

Dr. Kadakia is an academic and ambulatory care fellow with the Purdue University College of Pharmacy. In this role, she divides her time between providing direct patient care at local FQHCs and teaching students. During her free time, Dr. Kadakia mentors students in APhA-ASP as an advisor. She recognized my passion for medication safety through this role and invited me to collaborate with her on a developing project. While working with patients at the Family Health Clinics, she realized that many patients had unused or expired medications but were unsure of how or where to dispose of them. She wanted to involve students in educating

Figure 1. The Family Health Clinic at Monon.

patients at local FQHCs about safe medication disposal during the week leading up to the October 2018 National Drug Takeback Day. Together, Dr. Kadakia and I set out to create patient-friendly educational materials that considered the unique circumstances of populations in underserved rural areas.

First, we wanted to develop a list of drug takeback sites that were within a reasonable distance of each of the four Family Health Clinics. I created a unique handout for each clinic with drug disposal locations that were no more than 30 miles away. This list provided convenient disposal sites, but many were only temporary and would disappear by the end of National Drug Takeback Day. In locations like Wolcott, the nearest permanent drug disposal location was located 30 miles away (roughly a 40-minute drive). We wanted to ensure that these patients still had reasonable means to dispose of unwanted medications.

Then, we provided alternative drug disposal options by educating patients about safe drug destruction. The preferred method of destruction is dependent upon the urgency of removing the medication from the household. If a single exposure to a medication can cause immediate

harm or death, the U.S. Food and Drug Administration (FDA) recommends flushing the medication down the toilet whenever drug disposal resources are not readily available (FDA, 2019). We included a table of the most common medications from this list on a poster and fliers. For medications that did not warrant immediate destruction, we provided instructions on responsible disposal in the household trash. This involves placing the medication in a sealed plastic bag and mixing it with an unappetizing substance, such as used coffee grounds, dirt, or cat litter (FDA, 2019). This allows patients with limited resources to destroy unwanted medications by utilizing ordinary household substances. At each clinic, patients had the opportunity to interact with a hands-on drug destruction activity developed by Dr. Kadakia. Plastic bags, damp coffee grounds, and small candies were used to demonstrate how to destroy unused medications at home.

Last, we wanted to ensure that patients were knowledgeable about safe syringe and needle disposal. While most patients are familiar with sharps containers, many are unable or unaware of how to obtain a sharps container for home use. The posters and handout that I developed included reasonable alternatives for safe syringe disposal

OCTOBER 27TH NATIONAL DRUG TAKEBACK DAY

10:00AM – 2:00PM

National Drug Takeback Day Wolcott, IN
White County Sheriff's Department – 16 miles

915 W Hanawalt, Monticello, IN

Indiana State Police – 21 miles

5921 SR 43 North, West Lafayette, IN

Lafayette Police Department – 27 miles

1301 South St, Lafayette, IN

Year-Round Drug Takeback Sites

West Lafayette, IN – 28 miles

Custom Plus at 482 W Navajo St

Purdue University Pharmacy at 575 Stadium Mall Dr.

Alternative Sharps Containers

Flushable Medications

Fentanyl – Hydrocodone
Methadone – Morphine –
Suboxone® Hydromorphone –
Oxycodone Methylphenidate
Patch

**Deadly with just one
dose**

SHARPS DISPOSAL

Safe Needle Disposal

1-800-643-1643

safeneedledisposal.org

Figure 2. Sample patient takeaway distributed at the Family Health Center of Wolcott.

Figure 3. Elaina with poster, patient handouts, and drug destruction simulation materials.

that utilized supplies most patients would have on hand, such as detergent bottles or coffee tins. Patients were instructed to only allow containers to become two-thirds full before taping the lid in place and labeling the container as hazardous. Fliers included the phone number and website for Safe Needle Disposal, which directs patients to the nearest convenient location to drop off their sharps containers (Safe Needle Disposal, 2019).

The posters and patient handouts were available in the waiting room at each clinic throughout the week leading up to National Drug Takeback Day. Student pharmacists ranging from first-year to fourth-year professional students provided direct education one day per week at each of the clinics. In preparation for patient counseling, I educated students about the National Prescription Drug Takeback Day initiative and the methods of drug destruction outlined in the patient handout. There was no formal student training about how to engage with this particular patient demographic. Instead, students engaged with patients organically as they entered the waiting room area and encouraged them to participate in the medication destruction simulation.

COMMUNITY IMPACT

This project increased awareness of the dangers of storing unwanted medications at home by describing the risks associated with accidental exposure and misuse. Our outreach connected medication disposal to the safety of patients' community and family members, reinforcing why they should actively participate. Patients may have recognized the risks associated with keeping unused medications in their homes, but they were largely unaware of

how to take action. Providing patients with the addresses of local drug disposal locations removed a major barrier to safe medication disposal. Once patients recognized familiar locations as medication disposal sites, they could confidently act upon their desire to protect their family from known hazards. For community members limited by a lack of transportation, we were able to offer actionable solutions for medication disposal using household items. This confronted a potentially daunting task with a solution that could be reasonably carried out using objects that patients already had at home.

This project was new to both the Family Health Clinic and the students. Because of this, the direct community impact is hard to quantify. Our hope is that this community engagement decreases the amount of unneeded medications throughout the area, thereby reducing the risk of prescription drug misuse or exposure. As this project grows, aspects are likely to develop that will measure the impact on both students and patients. Feedback from the community about interactions with the students may fuel the greatest improvements by providing insights into how to better meet patient needs. Additionally, efforts should be made to demonstrate this project's value to students by qualifying how their experience shaped their perception of underserved patient populations. Measuring such outcomes can demonstrate the value of this project and ensure its continued success.

Undeniably, this project was largely made possible due to Dr. Kadakia's passion for safe medication disposal and mentoring student pharmacists. After she departs from the Family Health Clinic, the consistent involvement of pharmacy students and fellows within each clinic can sustain this project. In order to make a more profound impact on the community, I would encourage students to receive more formal education about the barriers that underserved patients face. A script outlining safe medication and sharps disposal could also ensure the uniformity of each patient interaction. This project will continue so long as pharmacists and students remain passionate about empowering patients to avoid becoming the source of a medication tragedy.

STUDENT IMPACT

Growing up in a suburban area in northwest Indiana, I was never more than 10 minutes from a local pharmacy, hospital, or police station. This experience challenged me to consider how my upbringing influences how I interact with patients and make recommendations to them. Suggestions for patients in underserved areas should be tailored to available resources in order to

have a meaningful impact on their lives. This project prompted me to reflect on why patients may not engage in activities like medication disposal despite the clear benefits. Education and resources are the key to helping patients understand their role in something as large-scale as America's prescription medication abuse epidemic.

Additionally, I learned how communication barriers can alter the impact of my recommendations. Some of the patients at the health clinics were native Spanish speakers, so the English poster and patient handouts were less impactful. This reminded me to always include diverse representation in the review and presentation of educational materials, so that they may be meaningful to all patients. On a broader scale, this experience was a humbling reminder of the importance of diversity across all healthcare fields, because our recommendations are insignificant if they cannot be effectively communicated.

This experience challenged me and other student volunteers to reframe what we learned in pharmacy school so that it could positively impact a unique patient population. Our education gives us the power to bring opportunities to patients who may otherwise be underserved. When students engage with these communities, they learn valuable lessons of their own about the provision of healthcare across diverse populations. I am passionate about motivating other students and healthcare professionals to explore underserved patient populations and reflect upon how they can develop their patient care approach to leave a more meaningful impact on disadvantaged communities. This experience reinforced my plan to remain engaged with underserved patient populations throughout my career, never forgetting my responsibility to help the patients overlooked by the greater healthcare system.

CONCLUSION

As medication experts, pharmacists play a vital role in the distribution of medications throughout a community,

but we have an equally important duty to aid in the removal of unwanted medications. Pharmacy students are uniquely poised to address this epidemic. Engaging with the local community allows students to gain patient education experience while also directly addressing a demonstrated prescription drug abuse crisis. By educating patients and encouraging them to remove unwanted medications from their communities, student pharmacists can empower patients to combat drug abuse and addiction before it starts.

REFERENCES

- CDC (U.S. Centers for Disease Control and Prevention). (2018, December). Opioid overdose: Prescription opioid data. Retrieved from <https://www.cdc.gov/drugoverdose/data/prescribing.html>.
- DEA (U.S. Drug Enforcement Administration). (n.d.) National prescription drug takeback day. Retrieved from <https://takebackday.dea.gov/>.
- FDA (US Food & Drug Administration). (2019, February). Disposal of unused medicines: What you should know. Retrieved from <https://www.fda.gov/drugs/resourcesforyou/consumers/buyingusingmedicinesafely/ensuringsafeuseofmedicine/safedisposalofmedicines/ucm186187.htm>.
- Safe Needle Disposal. (2019). Safe needle disposal. Retrieved from <https://safeneedledisposal.org/>.

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