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## Assessing and Improving Awareness of Safe Prescription Drug Disposal in Hinesburg, Vermont

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# Assessing and Improving Awareness of Safe Prescription Drug Disposal in Hinesburg, Vermont

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Hinesburg Family Practice

February-March 2021

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# Problem Identification



- 9.9 million Americans misused controlled prescription medications in 2018<sup>1</sup> and over half of these people obtained prescriptions from a friend or relative<sup>2</sup>.
  - An estimated 32,445 prescription opioid-involved deaths occurred in 2016<sup>3</sup>.
  - In 2015, 11% of Vermont High School Students reported taking a pain reliever or stimulant not prescribed to them<sup>4</sup>.
- Improperly disposed of prescriptions can accumulate in drinking water and via bioaccumulation in the food chain, posing health risks to animals and wildlife<sup>7</sup>.
  - At least 93 pharmaceuticals have been reported to contaminate surface water including antibiotics, antidepressants, antiepileptics, blood thinners, contraceptives, and diuretics<sup>5</sup>.
  - In a 2017 study of University of Vermont students, less than half were aware of the presence of drugs in the environment. Respondents who were aware of pharmaceuticals in the environment were more than three times more likely to use proper drug disposal methods<sup>6</sup>.
  - Awareness of pharmaceutical pollutants in the environment and knowledge of proper disposal have both been significantly associated with participation in proper drug take back programs<sup>7</sup>.
- In a study of 421 Vermonters, 22% reported using drug take back programs, while 19% reported disposing in trash, 9% reporting flushing down toilet, and 26% reporting keeping unused prescriptions. In this study, 78% of respondents reported never being told what to do with leftover medications by their physician<sup>7</sup>.

# Public Health Costs



- The total healthcare cost of the opioid epidemic in Vermont is unknown. In Massachusetts alone, over \$340 million are spent annually on healthcare associated with opioid abuse<sup>8</sup>.
- The high cost of wastewater treatment facilities to remove pharmaceutical contaminants is substantial and not always practical<sup>7</sup>.
- There is a lack of accessible data regarding the cost of drug take back programs. A case study in Alameda County, CA estimated annual costs at over \$300,000<sup>9</sup>.
- The cost of a well-run national medication disposal system for the public would be substantial. In Sweden, such a system has resulted in a very low prevalence of improper methods of disposal<sup>10</sup>.

# Community Perspective



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- *“I’ve seen plenty of patients who report using old prescriptions for new problems... and I try to always discuss proper medication disposal when switching from one controlled substance to another... We don’t usually take medications back at our practice, but we do occasionally when patients bring old prescriptions to an appointment, and we do have the necessary disposal equipment.”*  
–Michelle Cangiano, MD, Site Physician Leader, Hinesburg Family Practice
  - *“I have definitely had patients who have used old medications to treat new problems or who are concerned about discarding medications in case they need them in the future.”* –Primary Care Provider, Hinesburg Family Practice
  - *“We assume that prescribers are discussing this with patients, we don’t usually [discuss what to do with unused medications]... We aren’t accepting prescription take back due to the COVID-19 pandemic, but usually only accept non-controlled substances. We refer customers to the police station across the street, they accept controlled substances.”* -Natalie Page, Pharmacy Intern, Kinney Drugs Hinesburg
  - *“Communication is the best way to improve drug disposal - in the offices there is so much educational material it’s like competing for ad space, so when prescribing medications and walking patient through correct usage, including information on safe drug disposal would be helpful”* - Alexander Homkey, Drug Disposal Program Manager, Vermont Department of Health

# Methodology and Intervention



## **.hfpdrugdisposal**

***“Please help keep prescription drugs out of the hands of friends and family and out of our environment. Ways to discard unused medications:***

- 1. Drop off unused medications at Hinesburg Police Department 7 days a week, 7am-11pm***
- 2. Request a prepaid envelope to mail back unused medications at [the Department of Health website](#) or by calling the Department of Health at 802-651-1567”***

- A brief survey was conducted at Hinesburg Family Practice that examined if patients have unused prescription medications in their homes, what these medications are, how they typically dispose of their medications, and if they were aware of drug disposal sites or had seen information regarding proper drug disposal.
- Current resources for prescription take back in Hinesburg, VT were compiled including information on Vermont’s mail back envelope program, the national DEA take back locator, and directly from Kinney Drugs and the police station in Hinesburg, VT.
- To increase communication on the topic, a “dot phrase” was created in EPIC to include in after visit summaries to communicate to patients how to dispose of unused medications in Hinesburg, VT.
- Providers at Hinesburg Family Practice were given a CDC information sheet on the importance of communicating this information to their patients and a reminder sticker of the “dot phrase” was placed on their computers.

# Results of Survey

- 13 patients responded to the survey
- Of respondents, just under half had unused medication at home, 39% had disposed of medications via trash or toilet, and almost a third were unsure of disposal locations in their community.
- Resources exist for safe drug disposal in Vermont; however, patients need to be made aware of these resources and their importance.
- Primary care providers in Hinesburg have been happy to use the “dot phrase” to communicate drug take back information to patients.

## 1. Do you currently have unused prescription medications in your home?

1. Yes - 6 (46%)
2. No - 7 (54%)

## 2. What type of unused medications do you have?

1. Antibiotics – 3 (23%)
2. Pain medications - 3 (23%)
3. Other - 3 (23%)
  - “Nitro”

## 3. Why have you saved unused medications?

- “Just in case”
- “Just discovered that it is expired”
- “Finishing prescription today and I will have some leftover”
- “Nowhere to dispose”
- “In case I need them in the future”

## 4. How have you disposed of medications in the past?

1. Brought to doctor - 0
2. Brought to pharmacy – 3 (23%)
3. Brought to police station – 3 (23%)
4. Put in garbage – 4 (31%)
5. Flushed down toilet - 1 (8%)
6. Given away or sold - 0
7. Other - 3 (23%)
  - “Mailer plastic bag sent to regional disposal site. Got it at our library.”

## 5. Are there places in your community where you can dispose of unused prescription drugs?

1. Yes – 9 (69%)
2. No - 0
3. Unsure – 4 (31%)

## 6. Do you recall seeing or hearing, within the past 12 months, any information regarding safe disposal of prescription medications?

1. Yes – 8 (62%)
2. No – 5 (38%)
3. Unsure - 0

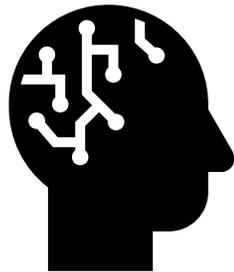
# Evaluation of Effectiveness

- In order to properly evaluate the effectiveness of the intervention, follow up with the providers and patient population at Hinesburg Family Medicine is necessary. Our hope is that more patients would be aware of local methods of prescription take back and that less would have unused medications in their homes.

## Limitations

- Small sample size of 13. Our results may not represent Vermont as a whole. Larger studies are needed to examine the knowledge of Vermonters and the impact of communication and awareness of safe drug take back on chosen methods of drug disposal by patients.
- Patients with unused prescriptions at home may have been hesitant to complete this survey, and selection bias could have contributed to our results.
- Discussing prescription take back with patients adds to already time constrained visits, providers may forget to use “dot phase”.

# Future Projects



- Replicate this survey in other Vermont Primary Care locations for a better sample of patient knowledge.
- Implement the use of a “dot phrase” in primary care sites beyond Hinesburg, VT to encourage more ubiquitous discussion of safe drug disposal in Vermont, especially when prescribing opioids and other controlled substances.
- Add information on proper drug disposal to packaging of controlled substances.
- Increase the availability and presence of Vermont’s mail back envelopes in public places.

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