

Opportunities for improving opioid disposal practices in the Veterans Health Administration

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Purpose. The potentially vast supply of unused opioids in Americans' homes has long been a public health concern. We conducted a needs assessment of how Veterans Affairs (VA) facilities address and manage disposal of unused opioid medications to identify opportunities for improvement.

Methods. We used rapid qualitative content analysis methods with team consensus to synthesize findings. Data were collected in 2 waves: (1) semistructured interviews with 19 providers in October 2019 and (2) structured questions to 21 providers in March to April of 2020 addressing how coronavirus disease 2019 (COVID-19) changed disposal priorities.

Results. While many diverse strategies have been tried in the VA, we found limited standardization of advice on opioid disposal and practices nationally. Providers offered the following recommendations: target specific patient scenarios for enhanced disposal efforts, emphasize mail-back envelopes, keep recommendations to providers and patients consistent and reinforce existing guidance, explore virtual modalities to monitor disposal activity, prioritize access to viable disposal strategies, and transition from pull to push communication. These themes were identified in the fall of 2019 and remained salient in the context of the COVID-19 pandemic.

Conclusion. A centralized VA national approach could include proactive communication with patients and providers, interventions tailored to specific settings and populations, and facilitated access to disposal options. All of the above strategies are feasible in the context of an extended period of social distancing.

Keywords: disposal, diversion, opioids, public health, Veterans Affairs

The potentially vast supply of unused opioids in Americans' homes, albeit unquantified, has long been a concern. From the mid-1990s through the turn of the century, the United States saw a dramatic increase in prescriptions for opioid analgesics,¹ followed quickly by a significant uptick in nonmedical opioid use.² Between 1999 and 2018, more than 232,000 opioid overdoses involved prescription opioids.³ An average of 41 people per day have died from overdoses that involved prescription opioids.⁴ Further, the amount of opioids diverted from legitimate prescriptions to illegal circulation is 5 times higher as of 2017 than it was in 2002.⁵

The reservoir of opioids is of heightened concern now and in coming months due to the coronavirus disease 2019 (COVID-19) pandemic. More than 191 million opioid prescriptions were dispensed by retail pharmacies in 2017, and up to 90% of people who received these opioid prescriptions reported that they did not finish the full prescription, leaving what the Food and Drug Administration (FDA) estimates could be millions of leftover opioids in US households.⁶ In the United States, the COVID-19 pandemic is layered on the existing epidemic of opioid use and the public health challenge of managing widespread chronic pain. Social isolation and attendant pandemic anxiety place households at risk of extreme stress, for example, increasing risks of intimate partner and child abuse and predicting addiction risk.^{7,8} For example, over 40 states saw increased opioid-attributed deaths in the 6 months since the beginning of the pandemic⁸, and in Arkansas the use of Narcan (naloxone hydrochloride, Adapt Pharma, Plymouth Meeting, PA), a drug used to reverse opioid overdoses, has increased 3-fold.⁹ Economic aftereffects also threaten to exacerbate and prolong psychosocial distress, particularly for households of lower socioeconomic status, placing this high-risk group in further jeopardy.¹⁰ Cumulatively, experts are calling for urgent global action to prevent suicide.^{11,12} With stress levels high and people at home, unused pharmaceuticals, particularly opioid analgesics, present a pressing public health risk to patients and their families.

Over time, COVID-19 may have a disproportionate impact on people with substance use disorders. Rates of patient admission for treatment of opioid use disorders, nonmedical opioid use emergency room visits, and neonatal abstinence syndrome have all risen dramatically since the early 2000s.^{13,14} Because of increased fear of visiting the emergency department, grave outcomes may now be expected for what could have been nonfatal opioid overdoses. For opioid users seeking admission for opioid disorder treatment, social distancing measures may also directly impact the timeline in which these individuals are able to be admitted to treatment facilities or programs.

Before the outbreak of the COVID-19 pandemic in 2019, we undertook interviews of national stakeholders to understand how Veterans Affairs (VA) facilities address and manage disposal of unused opioid medications and to identify opportunities for improvement, in terms of both health care provision and public health policy. As the COVID-19 pandemic rattled healthcare delivery, we asked follow-up questions of VA stakeholders to ensure the salience of our findings in the context of COVID-19 and social distancing requirements.

Methods

Study design. In partnership with the VA pain program office, beginning in October 2019, we conducted a rapid national needs assessment to understand how sites handle and help patients handle disposal of unused opioid medications and identify opportunities for intervention. This work received a non-human subjects determination from the Stanford/VA Palo Alto institutional review board. To ensure that recommendations were valid in the context of social distancing requirements, we held off on circulating early findings and conducted additional interviews in March 2020. In summary, in wave 1, we interviewed key stakeholders on their perceptions of VA opioid disposal programs, including communication with providers and patients and use of law enforcement–run disposal days, mail-back

envelopes, secure bins located at VA and other pharmacies, and buy-back programs, via a semistructured interview guide (eAppendix). Interviews were conducted in November to December of 2019, lasting 30 to 60 minutes. We utilized a hybrid snowball and purposive sampling approach¹⁵ to target key stakeholders from diverse disciplines and geographically dispersed VA medical centers. We employed Stanford lightning report rapid qualitative analytic techniques to produce themes.¹⁶ We continued recruiting until thematic saturation¹⁷ was reached, meaning that no new themes or categories emerged with additional interviews.

Data and analysis. Each phone interview in wave 1 was conducted by social science researchers with expertise in interviewing and qualitative methodologies. These researchers conducted the majority of the interviews together, with one researcher conducting the interview while the other took notes. Interviews were audio recorded. To facilitate rapid synthesis, the primary interviewer produced a rapid written synthesis of each interview; these were analyzed with the Stanford lightning report method.¹⁶ Lightning reports were circulated among the investigator team, which included physicians, a licensed pharmacist, and PhD-trained social science researchers with expertise in qualitative research methods. Discussion around lightning reports generated an initial iteration of emergent themes (completed in January 2019). Simultaneously, 5 recorded interviews were transcribed verbatim by a team member with extensive qualitative analysis experience and coded with the emergent themes. Next, this researcher listened to the remaining interviews and transcribed quotations verbatim as they contributed new information under each theme.

As we were preparing to circulate our findings,^{18,19} the outbreak of the COVID-19 pandemic necessitated widespread social distancing. We therefore conducted a second wave of primary data collection to query how opioid disposal needs changed in the context of COVID-19. In a follow-up email, we asked participants to reflect on how things may have changed since the fall of 2019, including how

patient education had changed with less in-person contact and the implications of reduced contact between patients and providers at medical centers.

Written responses from this second wave were analyzed together with the data from the first wave to produce a coherent set of themes. Two investigators reviewed all content from wave 2 and arrived at consensus.

Results

In wave 1, we interviewed 19 key VA stakeholders from 8 VA sites, including surgical (1), pain (2), ambulatory care (4), and pharmacy (10) specialties and VA police (2). In wave 2, we collected comments from 21 VA physicians and pain pharmacists. Below, we present 3 themes that were saturated during wave 1 and affirmed in wave 2 to hold salience during social distancing.

Theme 1: While many diverse strategies have been tried in the VA, there is limited standardization of opioid disposal advice and practices nationally. Many providers were unaware of best practices or even current options within their local system. As one commented:

"[Mail-back programs are] more well known in the community now but weren't a few years back. [...] We try to update [providers], but they also hear so much. [Of] 10 primary care docs, 8 of them wouldn't know about the take-back envelope program."

Providers felt that opioid disposal may not be routinely discussed with patients and that the documentation provided with opioid prescriptions does not necessarily include information about opioid disposal. One exception to this was prescriptions for long-term opioid therapy, where patient

consent includes generic (non-site-specific guidance) information about disposal. Frequently implemented interventions included blue bins located by pharmacies or local police stations for secure medication disposal and mail-back envelopes given to patients by physicians or pharmacists. Barriers to implementing these interventions included perceptions related to cost to either the patient or the system (eg, if mail-back envelopes were premarked with postage to facilitate use, this could result in significant costs for larger-volume VA systems). When asked whether it is standard practice to hand out mail-back envelopes with opioid prescriptions, one pharmacist said:

“Of course, the pro is that [patients] have easy access and the con is that you know they fill their script every month and then they’ve got another bag and another bag, and the big con of that is that the bags cost us money. [...] That is a lot of expense for something that probably wouldn’t be used all that often.”

Another cited barrier was concern about environmental waste if mail-back envelopes were mailed out all the time even though many might not ever end up being used. As one provider commented, “[...] it just seemed like a lot of work to just get people the envelopes, and we are really trying to help the environment.” Providers wanted clear guidance from leadership about how to navigate best practice given cost (one noted, “Postage gets really tough and it wouldn’t really be worth it”) and other considerations. Providers highlighted how the decision to mention disposal was currently just at their “discretion.” One described this as:

“We aren’t giving bags out willy-nilly, we’re not like, ‘Here, take 5 bags’. It’s really at our discretion and not [for] all patients.”

Theme 2: provider recommendations to improve disposal efforts in the VA. Providers wanted other providers, patients, and the community at large to remember that opioids are “still as dangerous to be left unsecured as they were pre-COVID.” Providers offered concrete recommendations on how to help get unused opioid medications out of circulation.

Recommendation 1: Target specific patient scenarios for enhanced disposal efforts. Providers identified 4 situations that might be particularly promising for targeting opioid disposal: (1) prescriptions for acute pain such as for patients following surgery; (2) tapering or changing prescriptions for long-term pain patients; (3) the families of patients who utilized opioids while receiving palliative care and hospice at home; and (4) patients with challenges accessing existing disposal options (eg, people without cars or unhoused patients).

Recommendation 2: Emphasize mail-back envelopes. As one provider noted, “Mail take-back envelopes [are] on our order list, so [those] could be used.” This addresses a need for “easy mechanism[s] for the patient to dispose of medications.” Providers mentioned that some existing infrastructure around mail-back envelopes could be leveraged but noted the drawback that mail-back approaches are inconsistent between VA sites. Providers thought that ideally mail-back envelopes could be ordered as prescriptions through CPRS (VA electronic medical record) and sent to patients. Providers highlighted the time sensitivity of getting opioids out of circulation and wondered whether it would be possible to leverage existing mail-back infrastructure with public health promotion to accomplish a national mail-back “VA take-back day.” In the context of COVID-19, mail-back envelopes are a strategy that supports social distancing and stay-at-home guidance. Providers gave examples of multiple types of

patients/situations in which to prioritize this strategy: surgery patients who may not need all of their pain medications, long-term pain management patients who may be changing medications or tapering doses, and palliative home care subcontractors who could distribute mail-back envelopes to the families of deceased patients as part of their standard process. As one provider said:

"I would prefer to just have the envelopes mailed to the patients and have the instructions for how to use [them] included, so when I [order] my pain meds, I can order naloxone and [...] just send out information saying there are these envelopes you can [use to] send back your unused opioids. [...] It would be worth the money."

Providers need clear guidance from leadership to be able to do this because of the cost associated with each envelope. One provider commented:

"[The] pharmacy has told me in the past that it would just be too expensive to do that and [that the envelopes are] maybe [...] \$1 each or \$5 or even \$10 each, but the message the primary care doc hears is [that] their time is worth that but mine isn't, so I am supposed to be the one to spend the extra minutes explaining it to the patient. In fact, I would even be willing to pay for that. Anyone prescribed an opiate [should] also [be] getting a take-back envelope along with it. That to me would be a very effective way to go about it."

Recommendation 3: Keep recommendations to providers and patients consistent and reinforce existing guidance. With the complexity of COVID-19, a number of providers strongly preferred to keep other changes “to a minimum.” Along these lines, providers warned about potential unintended consequences from making rapid changes to any prescribing practices. In the context of reduced healthcare access, for instance, in the case of long-distance care or natural disasters, there can potentially be negative consequences from accelerating disposal of prescriptions during dosage changes. As one provider noted, “[Being] careful not [to] overlap when doing a conversion [...] could backfire if you need to switch the patient back quickly and there’s none [of the previous prescription] on hand.” Another commented:

“If you cut back [medication] for people who are really in pain and really need it and people [are] short of meds, that’s really going to be an issue. So, we are overprescribing and that is an issue, but underprescribing is also a serious issue.”

In terms of opioid diversion, providers indicated that steady and systemic communication is preferable and could include reminder education about the boundaries of what is (and is not) permissible. To protect diversion at facilities, one pain pharmacist recommended: “Refresh VA staff that they should not take back opioid prescriptions. [...] Once dispensed, they are the sole property of the patient.” Providers warned facilities to reinforce the need for individual providers to follow existing guidance (in Veteran Health Administration [VHA] directive 1114), which states, “VA medical facility staff members and trainees, with the exception of VA police and long-term care staffs, are educated that they cannot take or accept CS [controlled substance] prescriptions back from Veteran patients and/or family

members, caregivers, or any other visitor.” A clinical pharmacist further emphasized: “Federal law prohibits pharmacists from receiving controlled substances. [We] have to tell people ‘no’.”

Recommendation 4: Explore virtual modalities to monitor disposal activity. Providers recommended accommodating patients as much as possible, for instance, by exploring virtual modalities such as video telehealth visits, to monitor disposal activity. Telehealth could enable providers to verify disposal for “those higher-risk patients [for whom] you prefer to witness the meds being disposed.” This would also be related to education on worst-case scenarios for disposal options, which include the option to flush medications down the toilet “only when take-back options are not readily available.”

From a virtual care perspective, providers noted that some aspects of telehealth could make medication disposal easier. For instance, other specialties have reported easier medication reconciliation with video visits, because patients can show providers what medications are in their cabinets. This is an ideal time to discuss disposal of any potential leftover opioid medications for acute pain management, which patients may not even consciously be retaining. Additionally, living situation was cited as a major risk factor for opioid diversion. Assessment of a patient’s living situation could be facilitated with video visits; one provider offered, “Check to see, is it a chaotic home environment?”

Recommendation 5: Prioritize access to viable disposal strategies. Providers recommended moving disposal infrastructure and addiction treatment clinics to convenient locations. One provider suggested a medication dropbox “at every facility” for easy access. Providers perceived that, when it is “not convenient for patients to return opiates,” they do not do so. A VA police officer reported relocating programs to near building entrances to reduce potential disease transmission for COVID-19. This officer noted,

“We have relocated our methadone program [where disposal can be facilitated] from the 5th floor to the 1st floor to [reduce] the time and areas [with which patients] come into [contact in] the hospital [when they come for] dosing.”

Accessing existing infrastructure was described as challenging at some sites. Many providers indicated that at their site they “direct [Veterans] to the police [department]” when patients ask about disposal. However, when asked what they have heard from patients about going to the local police department to drop off medications, multiple providers highlighted convenience-related concerns. As one noted, “Currently, [the police department is] pretty close. [...] But if [patients have] transportation issues, they are getting there by bus or shuttle [and] transportation could be a little bit of a barrier.”

Of note, providers described a postoperative buy-back program that was locally successful in a single rural setting. Providers not participating in this buy-back program were open to the possibility of implementing buy-back programs at their locations but identified barriers related to cost, resources (pharmacy full-time equivalents), and complexity/location (eg, distance to the pharmacy for patients).

Recommendation 6: Transition from pull communication to push communication. Before COVID-19, providers reported that “conversations don’t happen [about opioid disposal] much unless a patient makes an inquiry.” The example of signed informed consent for long-term opioid therapy is an exception. After the start of the COVID-19 pandemic, providers reported even fewer conversations about disposal. As one said, “I haven’t had any discussions with my patients [about] opioid disposal in these recent days.” Such “pull” conversations, where the patient is pulling information from providers, need to be replaced with “push” communication, where information about opioid disposal is

systematically distributed to patients. Because people are “creatures of habit,” push communications should occur at the same time in a prescription cycle and contain the same message, regardless of VA location. One suggestion related to this was to create a touchpoint with patients where disposal can be talked about. One provider recommended having a specific brochure that would be mailed out with naloxone kits to higher-risk patients with a reminder to dispose of unused opioid supply. This provider commented:

“Just brainstorming here, but maybe academic detailing [pain pharmacists] could make a handout or edit a current one if available [and] then mail [it] to patients receiving [a] naloxone kit? Hopefully that would be an easy way to capture the higher-risk patients. The handout could include [information on how patients could] ask their provider to mail a take-back envelope and/or [get] advice [on how] to dispose of [their medications] in a waterproof container (Coke [bottle], milk [bottle], etc), mix [them] with something nasty (old oil, coffee grinds, kitty litter, etc), [and] then toss it out in [the] trash.”

Discussion

In general, opioid disposal efforts are underway across the nation within the VA. Buy-back programs, hands-off blue bins and mail-back envelopes, and new policies are 3 promising avenues for future intervention. Overall, VA providers who participated in this needs assessment were motivated to address the issue of removing unused opioids from circulation but acknowledged barriers related to cost, resources, and competing priorities.

Exploring opioid disposal possibilities in the context of the COVID-19 pandemic may help to generate innovative solutions. All the recommendations mentioned to facilitate disposal under COVID-19 distancing requirements should also be valid in the future. Mailing out additional guidance on

disposal with naloxone kits is cost-effective and straightforward to implement. Delivery of healthcare has undergone a massive transition during the COVID-19 pandemic, with new emphasis on telehealth, which may continue beyond the pandemic.²⁰ The time is ripe for process innovation, particularly around telehealth. Processes put in place during social distancing requirements may actually help address VA access challenges in a post-COVID-19 period.^{21,22} Telehealth strategies to help with monitoring of disposal during COVID-19 can be retained and iterated to serve rural populations where distance from physical facilities has always been a barrier to both disposal and access to new prescriptions.

Having a national mail-back day for opioids is an interesting public health strategy that has relevance far beyond the VA. On the take-back day in October 2019, 882,919 pounds (almost 442 tons) of unused or expired prescription medications and vape devices were returned.²³ In the spring of 2020, owing to COVID-19 concerns, the national prescription drug take-back day was postponed, and at the end of April the Drug Enforcement Administration (DEA) launched a “Secure Your Meds” campaign as a consequence of this postponement.²⁴ Providers in our study offered suggestions to support the VA and other providers and systems to innovate around monitoring of remote disposal during this time.

This qualitative needs assessment from providers in various roles related to opioid prescribing, monitoring, and disposal creates a picture of provider- and site-level variation in encouraging opioid disposal. These findings are in agreement with several recent studies suggesting that it is within the scope of the role of pharmacists to provide education for safe disposal of opioids and that pharmacists can play an important role in helping to prevent opioid diversion.²⁵⁻²⁷ However, barriers persist, such as time and resource constraints, that frontline clinicians will need leadership to resolve.^{25,28}

The recommendations from the providers are both innovative and measured. Providers largely agreed to keep all guidelines for disposal as consistent as possible during this time and augment them with enhanced outreach to patients in the form of virtual monitoring and coherent communication

pushed to all patients with opioid prescriptions. Interestingly, providers recommended building onto existing touchpoints with patients, such as naloxone kit distribution, as opportunities for enhanced communication about both disposal and mail-back envelope disbursement. In the future, incorporating knowledge of patient behaviors from existing literature, such as the observation that women are significantly more likely to hoard their unused opioids than men²⁹, may help pharmacists identify and prioritize issues to communicate in discussions with patients. Of note, providers highlighted the need to remember that diversion could happen at the provider level and cautioned that policies about disposal should be kept consistent so as not to create opportunities for potential unintended consequences from enhanced disposal efforts.

Using rapid qualitative assessment could be considered both a limitation and a strength of the study. It was intended to identify challenges and opportunities in existing processes and rapidly share recommendations from providers about how to address the problem in the context of COVID-19 and related social distancing constraints. Admittedly, this was not a comprehensive organizational survey and, as such, was not intended to be a comprehensive assessment of all possible barriers or strategies that could be conceived of or tried. We analyzed data using the most rigorous methods available, given the priority of disseminating our findings quickly to foster real-time problem-solving. Recommendations may have a bias in that they came from frontline providers who were highly motivated to address the opioid disposal issue for the VA.

Conclusion

We cannot wait for COVID-19 and social distancing to end so that focus can again be placed on getting unused opioid medications out of circulation. Providers offered the following concrete, actionable strategies that health systems can implement now: (1) emphasize mail-back envelopes and

consider automatic envelope distribution for postoperative prescriptions; (2) keep recommendations to providers and patients consistent and reinforce existing guidance to ensure providers and staff are informed that they cannot take back products outside of official processes; (3) explore virtual modalities to facilitate and monitor disposal activities; (4) prioritize access to viable disposal strategies; and (5) transition from pull to push communication (eg, distribute opioid disposal guidance with mailed naloxone kits to higher-risk patients with a reminder to secure or dispose of unused supply).

Future efforts should coalesce disparate interventions into a centralized program that includes communication with patients and providers, interventions tailored to specific settings and populations, and layered interventions so that every Veteran can access disposal programs.

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Key Points

- While many diverse strategies for opioid disposal have been tried in Veterans Affairs (VA), there has been only limited standardization of opioid disposal advice and practices nationally.
- Frontline providers offer diverse recommendations to improve opioid disposal efforts nationally.
- Emphasizing prescription mail-back envelopes, exploring virtual modalities to monitor disposal activity, and other specific strategies may be helpful during the coronavirus disease 2019 pandemic and beyond.

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