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WHEN IMPROPER DISPOSAL LEADS TO MORE THAN HOSPITAL VISITS: THE NEED FOR A NATIONAL STANDARD FOR USED MEDICAL SHARPS

ALBANA ZHERKA*

INTRODUCTION

Accidental needle-sticks are quite common in health care settings, such as hospitals.¹ However, they can also occur to sanitation workers and associated personnel when medical sharps are improperly disposed of with the rest of household waste by individuals who require medical sharps to manage their diseases.² The definition provided by the Food and Drug Administration (“FDA”) for medical sharps is the following: devices that have sharp edges or points with the ability to cut or perforate the skin, which can be used at home, work, or while traveling to manage conditions such as blood clotting disorders, psoriasis, osteoporosis, multiple sclerosis, migraines, allergies, arthritis, cancer, hepatitis, HIV/AIDs, infertility, and diabetes.³ The FDA provides the following examples of sharps: lancets, syringes, needles, autoinjectors, infusion sets, and connection needles/sets.⁴

Focusing on diabetes, some diabetic patients have to check their blood sugar multiple times per day, thereby producing a large quantity of medical sharps.⁵ Depending on whether a patient is diagnosed with

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¹ Varun Goel et al., *Occurrence of Needlestick and Injuries among Health-care Workers of a Tertiary Care Teaching Hospital in North India*, 9 J. LABORATORY PHYSICIANS 20, 20 (2017), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5015493/?report=reader#!po=1.7857> [<https://perma.cc/PKQ4-XLZK>].

² *Needle Stick Injuries: Protecting Workers in the Municipal Sector*, PUB. SERVS. HEALTH & SAFETY ASS'N, <https://www.pshsa.ca/wp-content/uploads/2013/07/OSHFCAEN0713-Municipal-Needle-Sharp-Safety-Fast-Fact-highRes.pdf> [<https://perma.cc/Y52N-35F4>] (last visited Dec. 3, 2019).

³ *Safely Using Sharps (Needles and Syringes) at Home, at Work and on Travel*, FDA (Aug. 30, 2018), <https://www.fda.gov/medical-devices/consumer-products/safely-using-sharps-needles-and-syringes-home-work-and-travel> [<https://perma.cc/UP7R-SYL6>].

⁴ *Id.*

⁵ *See Blood sugar testing: Why, when and how*, MAYOCLINIC, <https://www.mayoclinic.org/diseases-conditions/diabetes/in-depth/blood-sugar/art-20046628> [<https://perma.cc/LPK9-86G4>] (last visited Dec. 3, 2019).

Diabetes Type I or Diabetes Type II, he or she may have to test blood sugars up to ten times daily.⁶ In 2011, the estimate was that ten million individuals in the United States would inject themselves with medication, thereby creating large amounts of medical sharps in the process.⁷ In 2018, there were an estimated 7.8 billion injections outside of health care facilities, creating used medical sharps which required proper disposal.⁸

These used medical sharps must be disposed of by the patients individually, and they are disposed of in regular household trash, which can put several different classes of individuals at risk for accidental needlesticks.⁹ In a study conducted by the Environmental Research & Education Foundation (“EREF”) and Solid Waste Association of North America (“SWANA”), it was estimated that municipal solid waste recycling facilities would see needles or syringes at least once annually.¹⁰ More than 50 percent of these facilities reported seeing needles or syringes either daily or a few times each week.¹¹ In addition to sanitation workers, children are also at risk because they may find these needles in parks.¹²

A major contributing factor to the problem of accidental needlesticks includes patients’ lack of education about the proper disposal of medical sharps, as a study conducted in Virginia indicated.¹³ To combat the lack of education, the Centers for Disease Control (“CDC”) has a page with a list of resources for the patient to visit in order to discover more information about home sharps disposal.¹⁴ Additionally, the FDA has tried to address this problem by creating a new website providing information for safe needle disposal.¹⁵

⁶ *Id.*

⁷ *Walgreens and Sharps collaborate on in-store needle-disposal system*, DRUG TOPICS (Oct. 15, 2011), <https://www.drugtopics.com/technology/walgreens-and-sharps-collaborate-on-in-store-needle-disposal-system> [<https://perma.cc/Y5XG-2CJV>] (last visited Dec. 3, 2019).

⁸ Debra Kantner, *Study Quantifies Needlestick Injury Rates for Materials Recovery Facility Workers*, WASTE360 (Sept. 10, 2018), <https://www.waste360.com/safety/study-quantifies-needlestick-injury-rates-materials-recovery-facility-workers> [<https://perma.cc/LE9F-JBSU>].

⁹ See Kathy Gold, *Safe sharps disposal in the home*, 8 AM. NURSE TODAY (June 2013), <https://www.americannursetoday.com/safe-sharps-disposal-in-the-home/> [<https://perma.cc/96US-SMMZ>].

¹⁰ Kantner, *supra* note 8.

¹¹ *Id.*

¹² D. L. Moore, *Needle Stick Injuries*, 13 PAEDIATRICS & CHILD HEALTH 211, 211 (2008).

¹³ See Kerri T. Musselman et al., *Patients’ Knowledge of and Practices Relating to the Disposal of Used Insulin Needles*, 1 INNOVATIONS PHARMACY 1, 2 (2010).

¹⁴ *Safe Community Needle Disposal*, CDC, <https://www.cdc.gov/niosh/topics/bbp/disposal.html> [<https://perma.cc/4N9X-QMSM>] (last updated Sept. 30, 2016).

¹⁵ *FDA Launches Site to Educate Patients on Safe Needle Disposal*, PHARMACY TIMES

Another major contributing factor to improper disposal includes the lack of a national standard for medical sharps.¹⁶ Because there is no national standard, the FDA recommends that patients look to community guidelines for the proper disposal of used medical sharps.¹⁷

As an example, in Virginia, the Virginia Department of Environmental Quality (“DEQ”) recommends that patients use an FDA-cleared plastic container specifically designed for disposal of medical sharps or another “rigid or heavy-duty, opaque, plastic container such as [a] detergent or bleach bottle[.]”¹⁸ The DEQ warns against placing used medical sharps in other types of containers: milk jugs, aluminum cans, plastic soda bottles, or glass containers.¹⁹ The DEQ further recommends that patients seal the container and use heavy-duty tape around the lid to prevent leakage.²⁰ Additionally, the DEQ recommends that patients label such containers with one of the following phrases: “HOUSEHOLD SHARPS—DO NOT RECYCLE” or “HOME GENERATED SHARPS.”²¹ Finally, the DEQ recommends the container be disposed of in the regular trash, warning patients not to recycle sharps or sharps containers, not to flush sharps, and not to dispose of loose sharps into trash bags directly.²²

Therefore, due to the complications of medical sharps disposal in the home, the national standard for medical sharps disposal should require that large chain retail pharmacies with drive-thrus provide patients with collection kiosks as an option for disposing of their used medical sharps. This national standard developed under the power of Congress via the Commerce Clause and its interest in protecting the public health, will not only be convenient for individuals managing medical conditions and safer for sanitation workers and related personnel, but it will also reduce

(Nov. 16, 2011), <https://www.pharmacytimes.com/news/fda-launches-site-to-educate-patients-on-safe-needle-disposal> [<https://perma.cc/JTZ4-EZ9A>].

¹⁶ See Kathleen Gold, *Analysis: The Impact of Needle, Syringe, and Lancet Disposal on the Community*, 5 J. DIABETES SCI. & TECH. 848, 849 (2011).

¹⁷ See *Sharps Disposal Containers*, FDA, <https://www.fda.gov/MedicalDevices/ProductsandMedicalProcedures/HomeHealthandConsumer/ConsumerProducts/Sharps/ucm263236.htm> [<https://perma.cc/KDT3-6X47>] (last updated Jan. 24, 2018) [hereinafter FDA, *Sharps Disposal Containers*].

¹⁸ *Management of Household Sharps*, VA. DEP’T ENVTL. QUALITY, https://www.deq.virginia.gov/Portals/0/DEQ/Land/Guidance/Household_Sharps_Flyer.pdf [<https://perma.cc/N3TE-BFD4>] (last visited Dec. 3, 2019).

¹⁹ *Id.*

²⁰ *Id.*

²¹ *Id.*

²² *Id.*

hospital costs and produce fewer negative environmental implications due to loose medical sharps being disposed of incorrectly.

I. BACKGROUND

There are instances where patients inquire about how they should dispose of the used medical sharps they have to use to manage their diseases when they visit pharmacies, and pharmacists can recommend a few options.²³

A common container in which medical sharps can be dispensed is an FDA-cleared sharps container, which is recommended by the FDA.²⁴ According to the FDA, sharps disposal containers are required to have a few characteristics, including resistance to leaking, composition of heavy-duty plastic, ability to stand upright during use, a lid with the ability to tightly close and that is resistant to puncture by the used sharps, and a label indicating the hazardous material inside the container.²⁵ The containers have a pre-marked line, which will give notice to the patients when the container is to be thrown away.²⁶ If patients cannot afford to purchase these specific sharps containers, the alternative includes laundry detergent bottles.²⁷

Pharmacists in retail pharmacies recommend these red sharps containers, which are sold by health care providers, retail pharmacies, and medical supply companies, to inquiring patients.²⁸ However, when the pharmacist counsels the patient to dispose of the red sharps container in the regular everyday household waste by placing the container towards the middle of the waste, as recommended by some state guidelines, patients are not satisfied with the response.²⁹

There are some alternatives to placing a used sharps container in everyday household waste.³⁰ There are mail-back programs, which collect

²³ See *How to Safely Dispose of Sharps in Your Pharmacy*, ELEMENTS, <https://www.pbahealth.com/how-to-safely-dispose-of-sharps-in-your-pharmacy/> [<https://perma.cc/AY8C-ASY>] (last visited Dec. 3, 2019).

²⁴ FDA, *Sharps Disposal Containers*, *supra* note 17.

²⁵ *Id.*

²⁶ *Id.*

²⁷ *Id.*

²⁸ *Id.*

²⁹ See *Be Smart with Sharps*, FDA, <https://www.fda.gov/downloads/MedicalDevices/ProductsandMedicalProcedures/HomeHealthandConsumer/ConsumerProducts/Sharps/UCM382005.pdf> [<https://perma.cc/P827-RS2L>] (last visited Dec. 3, 2019) [hereinafter FDA, *Be Smart with Sharps*].

³⁰ See *Fact Sheet*, SAFENEEDLEDISPOSAL.ORG, <https://safeneedledisposal.org/wp-content>

the containers, and some government locations such as the police department and the fire department also collect sharps.³¹

If a patient chooses to participate in the mail-back program, there are different companies which provide mail-back programs for used medical needles or lancets, including Sharps Assure: A Medassure Company.³² The company explains the basics of the sharps mail-back programs to interested patients on their website. The website directs a patient to use the sharps container until it reaches the line indicating the container is full.³³ The next step recommended by the website is to insert the full container into the provided plastic bag and seal it with the provided twist tie.³⁴ The full container is then to be placed in a brown cardboard box, which is to be placed into a white shipping carton, which can be shipped via the United States Postal Service.³⁵ There is a Customer Manifest Tracking Document for the patient to fill out—which includes a white copy for the patient's own records—and insert into the plastic pouch attached on the outside of the white shipping carton.³⁶ After the patient tapes the white shipping carton with water-resistant tape, which is also provided by Sharps Assure, and mails the used sharps container, he or she will receive a document within two to three weeks verifying the destruction of the used sharps.³⁷ The company assures its clients the sharps mail-back disposal kit complies with all the relevant standards and regulations as they pertain to federal, state, and United States Postal Service requirements.³⁸

When patients choose to participate in the mail-back program, they pay for the cost of both shipping back the container and treatment, which is included in the purchase price when they initially purchase the sharps container.³⁹ For an example of the cost of such a sharps container

/uploads/2017/11/Sharps-Fact-Sheet-11.6.17.pdf [https://perma.cc/MH7T-Q4LU] (last visited Dec. 3, 2019).

³¹ *Disposal Options*, SAFENEEDLEDISPOSAL.ORG, https://safeneedledisposal.org/sharps-management/management-and-disposal/ [https://perma.cc/B92X-6DZT] (last visited Dec. 3, 2019).

³² *Sharps Assure: The Ideal Solution For Small Scale Sharps Disposal*, SHARPS ASSURE: MEDASSURE COMPANY, https://www.sharpsassure.com [https://perma.cc/R3E4-CS7E] (last visited Dec. 3, 2019) [hereinafter SHARPS ASSURE].

³³ *About Sharps Assure*, SHARPS ASSURE: MEDASSURE COMPANY, https://www.sharpsassure.com/about-us/ [https://perma.cc/A9JE-THFF] (last visited Dec. 3, 2019).

³⁴ *How it works*, SHARPS ASSURE: MEDASSURE COMPANY, https://www.sharpsassure.com/how-it-works/ [https://perma.cc/4WYA-MTUB] (last visited Dec. 3, 2019).

³⁵ *Id.*

³⁶ *Id.*

³⁷ *Id.*

³⁸ SHARPS ASSURE, *supra* note 32.

³⁹ *Syringes, Needles, and Sharps Containers*, VAXSERVE: SANOFI-PASTEUR COMPANY,

from a retail pharmacy, Walmart sells a Home Sharps Container by the company BD for approximately \$2.96.⁴⁰ This sharps container can hold “up to 300 [insulin] pen needles,” or between “70 to 100 insulin syringes.”⁴¹

If patients want other options, they do have some alternatives to the mail-back program. There are drop boxes or supervised collection sites in locations such as hospitals, doctors' offices, pharmacies, health departments, medical waste facilities, and police or fire stations, depending on where the patient resides.⁴² Patients can also drop off sharps disposal containers at local hazardous waste collection sites, which also accept items such as motor oil, paint, and household cleaners.⁴³ An additional sharps disposal option for patients includes residential special waste pick-up services where the community uses a particular company to pick up the used sharps.⁴⁴ However, these options may be largely inconvenient for patients, who will have to go to a different location from the pharmacy at which they pick up their supplies to dispose of their sharps containers if they choose not to dispose of them with the rest of their household waste.⁴⁵

In contrast to patients, who can choose to dispose of their medical sharps with household garbage, pharmacies with immunizing pharmacists commonly only have two options to safely dispose of sharps containers when they are filled to the fill-line⁴⁶: a mail-back company or a pick-up service.⁴⁷ The mail-back program works very similarly to the way in which patients can dispose of used sharps containers: the sharps containers, which are pre-addressed and purchased from a medical waste disposal company, are filled and mailed back to a medical waste disposal facility.⁴⁸ The pharmacy does not have to sign a contract for the mail-back service.⁴⁹ These pharmacies can determine how many containers they will

<https://www.vaxserve.com/index.cfm?fa=anon.catalog&category=1016§ion=1279&noscript=true&heading=983> [<https://perma.cc/9NRC-76XL>] (last visited Dec. 3, 2019).

⁴⁰ *BD Home Sharps Container*, WALMART, <https://www.walmart.com/ip/BD-Home-Sharps-Container/10416759> [<https://perma.cc/CY9E-DWJL>] (last visited Dec. 3, 2019).

⁴¹ *Id.*

⁴² *How to Get Rid of a Sharps Container: Safe Disposal of Needles and Other Sharps Used at Home, at Work, or While Traveling*, FDA, <https://www.fda.gov/media/82396/download> [<https://perma.cc/YA6E-F639>] (last visited Dec. 3, 2019).

⁴³ *Id.*

⁴⁴ *Id.*

⁴⁵ *See generally* DRUG TOPICS, *supra* note 7 (patients used to go to physicians' offices or hospital to dispose of needles, but most of these locations no longer want to dispose of needles for patients).

⁴⁶ FDA, *Sharps Disposal Containers*, *supra* note 17.

⁴⁷ ELEMENTS, *supra* note 23.

⁴⁸ *Id.*

⁴⁹ *Id.*

need, so they do not make any excess purchases but still have enough to meet the demand.⁵⁰

In comparison, for the pick-up service which can be utilized by pharmacies, the company contracted to pick up the used sharps containers will collect them from the pharmacies and then transport them to the disposal facilities.⁵¹ The pick-up service is an expensive service that is burdensome for pharmacies.⁵² This is commonly used for large generators.⁵³

As stated above, pharmacies that immunize patients already utilize sharps containers to dispose of used needles and syringes after the pharmacists administer the immunizations.⁵⁴ The red containers are shipped back by the retail pharmacies to be properly disposed of once they are approximately two-thirds full.⁵⁵ Requiring large chain retail pharmacies with drive-thrus to provide medical sharps disposal for patients in addition to the sharps disposal the pharmacies already are required to do to dispose of used immunization needles and syringes will allow patients to have a convenient way to dispose of their used medical sharps. Although the pharmacies will be covering the cost of disposing of the used needles and lancets, there will be long-term benefits for patients as well as for society as a whole.⁵⁶

II. PROPOSAL

With patients inquiring into the proper disposal of used medical sharps in the midst of options being scarce, there should be a national standard requiring retail chain pharmacies with drive-thrus to have used medical sharps collection kiosks, which would not only provide patients

⁵⁰ *Id.*

⁵¹ *Id.*

⁵² *Id.*

⁵³ ELEMENTS, *supra* note 23.

⁵⁴ See *Pharmacy Sharps Disposal*, GRP, <http://www.sharpsdisposal.com/mail-back-sharps-disposal/pharmacy-sharps-disposal/> [<https://perma.cc/7RQ4-S6AH>] (last visited Dec. 3, 2019).

⁵⁵ FDA, *Be Smart with Sharps*, *supra* note 29.

⁵⁶ See Meghan Ross, *Few Pharmacies Answered DEA's Call for Drug Disposal Programs*, PHARMACYTIMES (Oct. 20, 2015), <https://www.pharmacytimes.com/news/few-pharmacies-answered-deas-call-for-drug-disposal-programs> [<https://perma.cc/KF8L-PPNF>] (“[P]harmacies are tasked with the cost of collecting . . . the pills.”); Ed Silverman, *Who should pay for disposing unused drugs? Pharma says: not us*, PHARMLOT VIEW (May 3, 2016), <https://www.statnews.com/pharmalot/2016/05/03/drug-take-back/> [<https://perma.cc/A9UZ-DL3T>] (the cost for drug take-back programs is approximately one cent for every ten dollars spent in sales—needle take-back programs can be analogized to the medication take-back program).

with an easier option for disposal and protect sanitation workers from accidental needle-sticks, saving millions of dollars in healthcare, but also protect the environment from inappropriate medical sharps disposal.⁵⁷

Patients are probably more likely to dispose of their used medical sharps properly if the disposal kiosks are placed in a location in which they already have to go. If patients have to go to the pharmacy to pick up refills on their medical supplies, they will be more likely to remember to dispose of their used medical sharps. The need to refill their prescriptions will serve as a reminder for the patient to bring the used sharps with them to the pharmacy for proper disposal. If patients can complete two tasks in the same location, then it will probably be more likely that these patients will properly dispose of their used medical sharps.

If the patients dispose of their used medical sharps properly, there will be fewer medical sharps, such as syringes, needles, and lancets, floating around in regular garbage bags, therefore posing fewer risks to sanitation workers as well as other individuals who come into contact with garbage, because loose sharps can pierce through the garbage bags if they are not secured in a thick plastic container.⁵⁸ If fewer sanitation workers and associated personnel are accidentally stuck by used sharps, then there should be fewer hospital visits for this population of individuals, which should mean fewer additional costs due to accidental needle-sticks.⁵⁹ Needle-sticks require follow-ups for testing, prevention, prophylaxis, and treatment, depending on the situation and diagnosis; and the fewer instances in which they occur should decrease the need for such services and therefore the overall cost.⁶⁰

Additionally, if there are fewer loose medical sharps disposed of in the household trash, then there should be fewer used sharps sitting in landfills or entering the oceans.⁶¹ If these used sharps are disposed of properly, they will not be contributing to the harmful waste accumulating

⁵⁷ See DRUG TOPICS, *supra* note 7. See generally Kantner, *supra* note 8 (based on the facilities included in the study, accidental needle-stick injuries could lead up to \$2.25 million in direct health care costs).

⁵⁸ Peg Quann, *Sanitation workers stuck by loose needles*, BUCKS COUNTY COURIER TIMES (Sept. 2, 2014), <https://www.buckscountycouriertimes.com/3110f7a0-8599-5770-bf0a-12ea2ee8fcd7.html> [<https://perma.cc/GJ4V-53TT>].

⁵⁹ See *What To Do Following a Sharps Injury*, CDC (Sept. 28, 2010), <https://www.cdc.gov/nora/councils/hcsa/stopsticks/whattodo.html> [<https://perma.cc/9UGU-K7X3>] (individuals experiencing accidental needle-sticks may need different types of testing and post-exposure prophylaxis).

⁶⁰ *Id.*

⁶¹ See DRUG TOPICS, *supra* note 7.

in the environment.⁶² Preventing needles and lancets from sitting in landfills and entering the oceans would be beneficial in the long term because there will be a decrease in clean-up costs in the future.⁶³

Requiring only pharmacies with drive-thrus across the nation to have sharps disposal kiosks for patients will be beneficial for society in the long run. Although these pharmacies will have to bear the costs of ultimately disposing of the used sharps brought in by patients, there will be a reduction in accidental needle-sticks, resulting in fewer hospital visits for prevention and for treatment costs of blood borne diseases.⁶⁴

However, even though the pharmacies with drive-thrus will be responsible for the used sharps disposal of the patients, which may or may not be theirs, the costs to such pharmacies will not be as great as they would be if all of the pharmacies in a corporation were to be responsible for disposal, regardless of whether they had a drive-thru or not. The burden on these corporations will be smaller if only the pharmacies with drive-thrus have used sharps disposal kiosks. If this becomes a national standard, patients will be able to have multiple locations in any and all states at which they can properly dispose of used medical sharps. Pharmacists will also be able to provide patients with a concrete answer when patients ask about their used sharps disposal.

Congress, under its authority via the Commerce Clause, can promulgate regulations concerning items traveling through interstate commerce.⁶⁵ The ability of Congress to regulate even wholly intrastate activity that obstructs the commerce power of Congress was determined by the Supreme Court in 1942.⁶⁶ In order for pharmacies to stock diabetic supplies, such as needles, lancets, and sharps containers, they must order them through wholesale distributors located throughout the United States, which means these items are traveling through interstate commerce,

⁶² *Id.* (As an example, used medical needles are incorporated into a product used to manufacture cement in Portland, after the needles are disinfected.).

⁶³ See generally Tim Devaney, *Cleaning up the trash? EPA looks to reduce emissions at landfills*, HILL (July 1, 2014), <https://thehill.com/regulation/211110-epa-looking-to-reduce-land-fill-emissions> [<https://perma.cc/49TB-WA5D>]; Peter King, *Ocean Cleanup won't turn a profit, but we should still do it*, CONVERSATION (Oct. 21, 2019), <http://theconversation.com/ocean-cleanup-wont-turn-a-profit-but-we-should-still-do-it-104097> [<https://perma.cc/33XU-SMC5>].

⁶⁴ See Ross, *supra* note 56 (analogizing the pharmacies paying for medication take-backs to pharmacies paying for needle take-back programs); Silverman, *supra* note 56. See generally Kantner, *supra* note 8 (based on the facilities included in the study, the accidental needle-stick injuries could lead up to \$2.25 million in direct health care costs).

⁶⁵ U.S. CONST. art. I, § 8, cl. 3.

⁶⁶ See generally *Wickard v. Filburn*, 317 U.S. 111 (1942).

giving Congress the authority to regulate such activities as was established in *Wickard v. Filburn*.⁶⁷ Overall, this will promote the goal of public health and safety because it should lead to the reduction of accidental needle-sticks of sanitation workers and associated personnel, which in turn should reduce hospital visits and procedures to deal with the consequences of such events.

III. MATTER OF CONVENIENCE

Used sharps drop-off kiosks in large retail drive-thru pharmacies would be more convenient for patients, who will be able to complete multiple tasks with one trip to the same location. Currently, there are a few options for patients to dispose of their used medical sharps, including drop boxes at doctors' offices, health departments, medical waste facilities, some pharmacies, and fire or police stations.⁶⁸ However, physicians' offices and hospitals are no longer as willing to handle needle disposal.⁶⁹ Additionally, although these other locations have take-back programs, these stations may be inconvenient for patients to travel to, to dispose of their used sharps depending on the distance from a patient's residence.⁷⁰ Disposal of used medical sharps at these sites are either free or have a minimal fee.⁷¹

The proposed medical sharps disposal kiosks can be analogized to the medication take-back programs provided by some pharmacies. There are various pharmacy chains that provide patients with medication take-back programs, so they can properly dispose of their unwanted medications once patients no longer have a use for them.

As an example, Walgreens provides patients with medication take-back kiosks, where patients can dispose of unwanted medications rather than leaving them lying around their homes and being a potential danger to children or other individuals.⁷² The medications collected in these kiosks can include prescription medications, over-the-counter medications, ointments, patches, pet medications, and vitamins.⁷³ However, what these kiosks do not accept includes illegal drugs, hydrogen peroxide,

⁶⁷ *Id.*

⁶⁸ *Best Way to Get Rid of Used Needles and Other Sharps*, FDA, <https://www.fda.gov/medical-devices/safely-using-sharps-needles-and-syringes-home-work-and-travel/best-way-get-rid-used-needles-and-other-sharps> [<https://perma.cc/Z4VL-SM97>] (last updated Aug. 30, 2019).

⁶⁹ Gold, *supra* note 9.

⁷⁰ FDA, *supra* note 68.

⁷¹ *Id.*

⁷² *Safe medication disposal*, WALGREENS, <https://www.walgreens.com/topic/pharmacy/safe-medication-disposal.jsp> [<https://perma.cc/5GLK-ABVX>] (last visited Dec. 3, 2019).

⁷³ *Id.*

or needles, inhalers, or thermometers.⁷⁴ The Walgreens website allows patients to look up Walgreens locations using various filters, including by state or by zip code.⁷⁵

Another example of a pharmacy chain that started participating in the drug take-back program is CVS.⁷⁶ In 2017, the pharmacy retail chain added medication disposal kiosks to 750 locations in two states: North Carolina and Pennsylvania.⁷⁷ CVS has a similar tool to the Walgreens search tool to discover locations that take back unwanted medications: a patient can input his or her zip code and select the distance he or she is willing to drive, and the locations that take back medications will be provided.⁷⁸

To help patients in locating pharmacies participating in drug take-back programs, the National Association of Boards of Pharmacy (“NABP”) also provides a “Drug Disposal Locator.”⁷⁹ Patients can input their zip code and how far they are willing to travel, in miles, to dispose of their unwanted medications, and a site providing a drug disposal program will be located for the patient.⁸⁰

The needle take-back program can be analogized to the medication take-back program run by both Walgreens and CVS. Large pharmacies with drive-thrus can provide patients with a collection kiosk for their used medical sharps, to be disposed of properly in the store.⁸¹ The patient can look up the locations providing these services in the same manner that patients look up medication take-back locations: by inputting a zip code and distance he or she is willing to travel into a central website such as the NABP. If a similar tool to the one the NABP developed for drug take-backs is developed for used personal medical sharps take-backs,

⁷⁴ *Id.*

⁷⁵ See *Medication Disposal Locations*, WALGREENS, <https://www.walgreens.com/storelocator/find.jsp?RxDisposal=true&o=acs> [<https://perma.cc/F6QN-HSAJ>] (input the zip code into the search bar) (last visited Dec. 3, 2019).

⁷⁶ *CVS Health Introduces Safe Medication Disposal Inside CVS Pharmacy, Marking National Prescription Drug Take Back Day*, CVS (Oct. 25, 2017), <https://cvshealth.com/newsroom/press-releases/cvs-health-introduces-safe-medication-disposal-inside-cvs-pharmacy-marking> [<https://perma.cc/DXS9-BDLP>].

⁷⁷ *Id.*

⁷⁸ *Who’s taking your pills?*, CVS, <https://www.cvs.com/content/safer-communities-locate> [<https://perma.cc/4VWE-9GRD>] (input the zip code into the search bar and the distance patient is willing to travel) (last visited Dec. 3, 2019).

⁷⁹ See *Drug Disposal Locator*, NAT’L ASS’N BOARDS PHARMACY, <https://nabp.pharmacy/initiatives/awarex/drug-disposal-locator/> [<https://perma.cc/LD98-KDT7>] (last visited Dec. 3, 2019).

⁸⁰ *Id.*

⁸¹ See CVS, *supra* note 76 (when analogized to the medication take-back kiosks in these pharmacies); WALGREENS, *supra* note 72.

patients will have an easier time locating and properly disposing of used medical sharps, albeit with the initial requirement of a computer and internet service. Patients can connect to the internet at a public library if they so require, as 98 percent of libraries offer Wi-Fi access to the public free of charge, to find a location that has needle take-back kiosks.⁸²

If patients have this tool available to them, they can do their research beforehand and choose a pharmacy to go to which has a used sharps take-back program if they regularly need to dispose of used medical sharps. When they visit the pharmacy to pick up or drop off their prescriptions, they can also dispose of their used medical sharps during the same trip, making it more convenient and more likely for the patients to dispose of their used sharps properly, reducing the risk of accidental needle-sticks to sanitation workers and other associated individuals.

IV. SAFETY

Used sharps drop-off containers in large retail drive-thru pharmacies would be safer for sanitation workers, as well as others who handle waste. In 2012, according to statistics from the federal Department of Labor, the national figure for accidental needle-sticks without exposing individuals to harmful substances was 820 incidents.⁸³ There are patients who do not place used sharps into a sharps container or even into a laundry detergent container before they dispose of them in the regular trash, which means there are loose sharps floating around the trash bags.⁸⁴ Additionally, even when patients remember to dispose of their used medical sharps in thick plastic containers, they sometimes forget to throw them away with the regular trash but instead dispose of them in the recycling containers.⁸⁵ When they are later deposited at the recycling centers, which crush the containers, sanitation workers and other associated individuals come into contact with used sharps, which can result in accidental needle-sticks.⁸⁶

There are different dangers of accidental needle-sticks, including not knowing what medical conditions the needles were used for, which results in the physicians not knowing what conditions they should be treating for in addition to treating the puncture wound itself.⁸⁷

⁸² *Internet Access and Digital Holdings in Libraries*, AM. LIBR. ASS'N, <http://www.ala.org/tools/libfactsheets/alalibraryfactsheet26> [<https://perma.cc/H8B2-EMSQ>] (last visited Dec. 3, 2019).

⁸³ Quann, *supra* note 58.

⁸⁴ *Id.*

⁸⁵ *Id.*

⁸⁶ *Id.*

⁸⁷ *Id.*

After a sanitation employee suffers an accidental needle-stick during the course of employment, a licensed medical professional will conduct a full medical evaluation to safeguard against the transmission of blood borne pathogens.⁸⁸ Once the initial evaluation is complete, there is also a one-year follow-up post-exposure evaluation, which includes testing for numerous different infectious diseases that are communicable via blood.⁸⁹

Therefore, by providing used sharps collection kiosks in large retail drive-thru pharmacies, patients will have another option to properly dispose of their used sharps instead of disposing of them in their regular household garbage, reducing the risk of loose sharps accidentally piercing through the bags. Additionally, there would theoretically be fewer accidental disposals of full sharps containers in recycling. These collection containers will ensure more sharps are properly disposed of, whether by pick-up services or by mailing them back, thereby reducing the risk of accidental needle-sticks to sanitation employees and other field-associated individuals who handle waste, because they will be properly equipped to dispose of used medical sharps.

V. COST OF HOSPITAL VISITS

Needle and lancet drop-off containers in large retail drive-thru pharmacies would be more cost effective in the long term for society.⁹⁰ Needle-sticks are dangerous because they can transfer blood borne diseases if the individuals using them have a communicable disease.⁹¹ Testing, prevention, prophylaxis, and treatment can have significant costs on individuals who are affected, even though they are sometimes covered under workers compensation.⁹² In the same study conducted by the EREF and SWANA mentioned above, the estimated cost of direct medical care for these types of accidental needle-stick injuries could be up to \$2.25 million.⁹³

There are multiple factors to consider when calculating the cost of an accidental needle-stick. First, emergency room visits can be quite expensive for patients, as demonstrated by an average cost of \$2,168 in

⁸⁸ *Id.*

⁸⁹ Quann, *supra* note 58.

⁹⁰ See Kantner, *supra* note 8 (based on the facilities included in the study, the accidental needle-stick injuries could lead up to \$2.25 million in direct health care costs).

⁹¹ *Id.*

⁹² See *Recovering Workers' Compensation Benefits for Incidents at Work*, ANKIN L. OFF., <https://ankinlaw.com/workers-compensation-incidents/> [<https://perma.cc/WEY9-ZYFP>] (last visited Dec. 3, 2019).

⁹³ See Kantner, *supra* note 8.

2013.⁹⁴ Additionally, different tests for blood borne pathogens range in costs, depending on the testing facility and depending on which blood borne pathogen is being tested for. For example, Hepatitis B testing has an average cost of \$65.⁹⁵ Hepatitis C testing has an average cost of \$70.⁹⁶ In 2005, HIV testing had an average cost of \$48.07 for a negative test and \$64.17 for a preliminary positive test.⁹⁷

If the test results are positive, the cost of treatment for different blood borne diseases varies depending on the severity and duration of the disease. The average annual cost of treating chronic HBV is \$761.⁹⁸ The average cost of treating HCV ranges from \$26,400 to \$95,000 to treat the disease.⁹⁹ The average discounted lifetime cost of treating HIV in infected adults in the United States averages to \$303,100.¹⁰⁰ Overall, taking both direct and indirect costs under consideration, without looking at treatment costs, the price of managing accidental needle-sticks ranges from \$650 to \$750, depending on the country and the continent, as determined by different studies altogether lasting about twenty years.¹⁰¹

Not only are there testing, treatment, and prevention costs with accidental needle-sticks, but there are also costs associated with loss of employment, finding employees to cover for the employee that was injured, and the like. If accidental needle-sticks can be prevented before they occur, it will lower the healthcare costs faced by society. Initially, there will be a decreased need for blood borne pathogen testing. With lower incidents of needle-sticks, there will be a decreased risk of individuals contracting

⁹⁴ Lindsay Abrams, *How Much Does it Cost to Go to the ER?*, ATLANTIC (Feb. 28, 2013), <https://www.theatlantic.com/health/archive/2013/02/how-much-does-it-cost-to-go-to-the-er/273599/> [<https://perma.cc/5EGP-YXVN>].

⁹⁵ *Hepatitis B Testing*, PRIV. MD LABS, <http://www.privatemdlabs.com/lp/hepatitis-b-testing.php> [<https://perma.cc/37CN-BAMR>] (last visited Dec. 3, 2019).

⁹⁶ *Hepatitis C (Antibodies)*, MD SAVE, <https://www.mdsave.com/procedures/hepatitis-c-antibodies/df84fa> [<https://perma.cc/MF8J-7J2Y>] (last visited Dec. 3, 2019).

⁹⁷ Steven D. Pinkerton et al., *Cost of Rapid HIV Testing at 45 U.S. Hospitals*, 24 AIDS PATIENT CARE & STDS 409, 410 (2010).

⁹⁸ T.A. Lee et al., *Cost of Chronic Hepatitis B Infection in the United States*, 38 J. CLINICAL GASTROENTEROLOGY S144, S144 (2004).

⁹⁹ Michelle Andrews, *FDA's Approval Of A Cheaper Drug For Hepatitis C Will Likely Expand Treatment*, NPR (Oct. 4, 2017), <https://www.npr.org/sections/health-shots/2017/10/04/555156577/fdas-approval-of-a-cheaper-drug-for-hepatitis-c-will-likely-expand-treatment> [<https://perma.cc/42HW-KH77>].

¹⁰⁰ Bruce R. Schackman et al., *The Lifetime Medical Cost Savings from Preventing HIV in the United States*, 53 MED. CARE 293, 294 (2015).

¹⁰¹ See Alice Mannocci et al., *How Much do Needlestick Injuries Cost? A Systematic Review of the Economic Evaluations of Needlestick and Sharps Injuries Among Healthcare Personnel*, 37 INFECTION CONTROL & HOSP. EPIDEMIOLOGY 635, 641 (2016).

blood borne diseases, decreasing the need for prophylaxis, prevention, and treatment.

VI. ENVIRONMENTAL IMPLICATIONS

Used sharps collection kiosks in large retail drive-thru pharmacies would also be safer for the environment. If used medical sharps are disposed of incorrectly in the normal household waste, the used needles and lancets can sit in landfills for years without treatment.¹⁰² However, if they are disposed of properly, they will not be inappropriately sitting in a landfill causing harm to the environment but can be repurposed for use in things such as cement.¹⁰³

Medical waste is usually managed by the health and environmental departments of each individual state.¹⁰⁴ Before 1997, medical waste with a characteristic for being potentially infectious was incinerated.¹⁰⁵ Because of environmental concerns with regard to air pollutants, the Environmental Protection Agency (“EPA”) promulgated regulations to more rigorously control emissions resulting from medical waste incinerators.¹⁰⁶ Because of the more policed regulations, there are also alternatives to handling medical waste, including thermal treatment, electropyrolysis, steam sterilization, and chemical mechanical systems.¹⁰⁷ Medical waste, once treated so as to become non-infectious, may be disposed of in incinerators or landfills as regular solid waste.¹⁰⁸

Needles cannot be recycled for use because of the high danger of disease transmission.¹⁰⁹ Even though the EPA promulgated more stringent regulations with regard to emissions from medical waste incinerators, because of the danger of communicable diseases, companies dispose of needles by incinerating them so the syringe, needles, and lancets are turned into ash.¹¹⁰ In this way, the pathogens are killed due to the high temperatures, thereby reducing the risk of disease transmission.¹¹¹

¹⁰² See DRUG TOPICS, *supra* note 7.

¹⁰³ *Id.* (explaining that Portland used treated medical sharps in cement).

¹⁰⁴ *Medical Waste*, EPA, <https://www.epa.gov/rcra/medical-waste#who%20regulates%20medical%20waste> [<https://perma.cc/CL7Q-72PM>] (last updated Nov. 7, 2017).

¹⁰⁵ *Id.*

¹⁰⁶ *Id.*

¹⁰⁷ *Id.*

¹⁰⁸ *Id.*

¹⁰⁹ Sophia Bennett, *Can needles be safely recycled?*, RECYCLE NATION (Aug. 28, 2015), <https://recyclenation.com/2015/08/how-to-recycle-needles/> [<https://perma.cc/J3BT-UJSW>].

¹¹⁰ *Id.*

¹¹¹ See *id.*

With the recommended disposal of the full sharps container in the regular household trash, these containers land in the landfills with the other garbage, remaining there for quite some time.¹¹² Not only are these used medical sharps sitting in landfills, but they are also washing up on different beaches, including beaches in New Jersey.¹¹³ In Ocean County, New Jersey, there was enough medical waste, including syringes, to warrant closing the beach off to swimming in August of 2018.¹¹⁴

The EPA, as the largest federal environmental agency, has, as one of its core missions, “[d]eliver[ing] real results to provide Americans with clean air, land, and water, and ensur[ing] chemical safety.”¹¹⁵ Clearly, the improper disposal of medical needles into the environment affects one of the major goals of the EPA. However, it would be difficult for the EPA to sanction individuals for improper disposal of used medical sharps in household trash. Initially, the EPA would most likely have to promulgate regulations to such an effect, through the notice-and-comment process.¹¹⁶ If the EPA were to try to sanction individuals for improper disposal, it would have to expend funds to determine which individuals improperly disposed of their medical sharps, which would be resource intensive. Additionally, it would be infeasible for EPA employees to check through every single garbage bag individuals place outside of their homes to determine if there were medical sharps that were improperly disposed of contained within. If the EPA tried to offset the difficulties of such actions via cooperative federalism, another goal of the EPA,¹¹⁷ the states would also face similar issues.

Therefore, having used sharps disposal kiosks in large retail drive-thru pharmacies will increase the probability that needles and lancets will be transported to incinerators and properly disposed of, reducing the risk to both society and the environment as they will not be sitting in

¹¹² See, e.g., *Safe Disposal of Household Sharps*, ME. DEP'T ENVTL. PROTECTION, <https://www.maine.gov/dep/waste/biomedical/sharps.html> [<https://perma.cc/FJX5-HHLS>] (last visited Dec. 3, 2019).

¹¹³ Jeff Goldman, *Syringes, medical waste found on Jersey Shore beaches (again)*, NJ.COM (Aug. 22, 2018), https://www.nj.com/ocean/2018/08/needles_wash_up_on_2_more_beaches_in_ocean_county.html [<https://perma.cc/JY6U-2UYD>].

¹¹⁴ *Id.*

¹¹⁵ EPA, *WORKING TOGETHER: FY 2018–2022 U.S. EPA STRATEGIC PLAN* (Feb. 2018), <https://www.epa.gov/sites/production/files/2018-02/documents/fy-2018-2022-epa-strategic-plan.pdf> [<https://perma.cc/PGG5-QQNB>] [hereinafter EPA, *WORKING TOGETHER*].

¹¹⁶ See *The Basics Of The Regulatory Process*, EPA, <https://www.epa.gov/laws-regulations/basics-regulatory-process> [<https://perma.cc/3E28-MV9B>] (last updated Sept. 5, 2019).

¹¹⁷ See EPA, *WORKING TOGETHER*, *supra* note 115.

landfills over the years.¹¹⁸ The ultimate responsibility for proper disposal will also fall on the pharmacies—rather than the individual patients—once patients drop-off their used medical sharps in the disposal containers.

VII. LEGAL IMPLICATIONS

The need for a national standard for used medical sharps disposal is apparent. There is incentive for Congress to speak on the issue so regulations can be promulgated to provide the nation with a consistent standard for safe used medical sharps disposal by individual patients.

Congress has the authority to provide for a national standard through a few different avenues. First, Congress has the power to shape public policy.¹¹⁹ Additionally, the Commerce Clause provides Congress with an important source to create legislation.¹²⁰ The Commerce Clause authorized Congress “[t]o regulate commerce with foreign nations, and among the several states, and with the Indian tribes.”¹²¹ It allows Congress to use its power to reach into public health, which has traditionally been a realm of state power.¹²²

Because the Commerce Clause allows Congress to reach items being transported in interstate commerce, Congress has the authority to create such a national standard for medical sharps disposal as medical sharps travel throughout states. For example, BD, one of the largest global medical technology companies in the world, which also produces insulin syringes, invested \$100 million in a facility in Holdrege, Nebraska, to increase the plant’s ability to manufacture insulin syringes.¹²³ BD not only provides insulin syringes, but also provides pen needles, safety syringes and needles, and sharps containments (sharps disposal containers and a device to clip needles and store them).¹²⁴ BD provides the following statement about the

¹¹⁸ See DRUG TOPICS, *supra* note 7.

¹¹⁹ Charles E. Gilbert, *The Shaping of Public Policy*, 426 ANNALS AM. ACAD. POL. & SOC. SCI. 116, 116 (1976).

¹²⁰ Lainie Rutkow & Jon S. Vernick, *Law and the Public’s Health*, 126 PUB. HEALTH REP. 750, 750 (2011).

¹²¹ U.S. CONST. art. I, § 8, cl. 3.

¹²² Lawrence O. Gostin, *Public Health Theory and Practice in the Constitutional Design*, 11 HEALTH MATRIX 265, 280 (2001).

¹²³ Troy Kirkpatrick & Monique N. Dolecki, *BD Invests \$100 Million in Nebraska Plant to Expand Insulin Syringe Manufacturing*, BD (Sept. 22, 2016), <https://www.bd.com/en-us/company/news-and-media/press-releases/sept-22-2016-bd-invests-100-million-in-nebraska-plant-to-expand-insulin-syringe-manufacturing> [https://perma.cc/U4JC-K89B].

¹²⁴ *Browse all diabetes care products*, BD, <https://www.bd.com/en-us/offers/capabilities/diabetes-care/browse-all-diabetes-care-products> [https://perma.cc/GN3U-PJGT] (last visited Dec. 3, 2019).

procurement of its supplies for such products: “BD procures high-quality raw materials, finished goods and services from suppliers globally to support our growing worldwide operations.”¹²⁵ Therefore, at least some BP supplies and products are imported into the United States across both state and international lines.

Another example is CURAD, which manufactures alcohol prep pads, which can be used to clean the site of the injection, whether by lancet or by insulin syringe.¹²⁶ Medline owns CURAD.¹²⁷ At least some CURAD alcohol prep pads are made in China.¹²⁸ Again, at least some CURAD products and supplies are imported into the United States across state and international lines.

Looking at large retail chain pharmacies, Walmart and McKesson broadened their distribution agreement.¹²⁹ McKesson has distribution centers in California, Texas, Arizona, Utah, Pennsylvania, Florida, and Ohio, to name a few states.¹³⁰ McKesson has thirty-seven distribution centers throughout the United States.¹³¹ CVS is supplied by Cardinal Health, after signing a ten-year agreement in 2013 with Cardinal Health for a 50/50 joint venture between the two.¹³² Cardinal Health has warehouses in Missouri, Tennessee, Michigan, Georgia, New Jersey, and Ohio, to name a few states.¹³³

Therefore, a variety of the components of diabetic supplies, such as insulin syringes, sharps containers, and alcohol prep swabs travel through

¹²⁵ *BD suppliers*, BD, <https://www.bd.com/en-us/company/trading-partners/bd-suppliers> [<https://perma.cc/RHH9-P49R>] (last visited Dec. 3, 2019).

¹²⁶ *Alcohol Prep Pads—100 Count*, CURAD, <http://curad.com/product/alcohol-prep-pads-100-ct/> [<https://perma.cc/Y6HN-Y7E9>] (last visited Dec. 3, 2019).

¹²⁷ *A History of Bringing Hospital Quality Advances Home*, CURAD, <http://curad.com/our-story/> [<https://perma.cc/JTD7-MYR9>] (last visited Dec. 3, 2019).

¹²⁸ *Curad Alcohol Swabs*, WALGREENS, <https://www.walgreens.com/store/c/curad-alcohol-swabs/ID=prod6147757-product> [<https://perma.cc/6UKZ-2AXH>] (last visited Dec. 3, 2019).

¹²⁹ *McKesson and Walmart Announce Sourcing Agreement for Generic Pharmaceuticals*, WALMART (May 16, 2016), <https://corporate.walmart.com/newsroom/2016/05/16/mckesson-and-walmart-announce-sourcing-agreement-for-generic-pharmaceuticals> [<https://perma.cc/MC88-V5GY>].

¹³⁰ *Medical Distribution Services: Distribution services you can count on*, MCKESSON, <https://mms.mckesson.com/content/our-story/distribution-services/#nationwide> [<https://perma.cc/NUK2-22ZH>] (last visited Dec. 3, 2019).

¹³¹ *Id.*

¹³² *Why The Joint Venture With Cardinal Health Is A Good Move By CVS*, FORBES (May 22, 2014), <https://www.forbes.com/sites/greatspeculations/2014/05/22/why-the-joint-venture-with-cardinal-health-is-a-good-move-by-cvs/#1676148512e7> [<https://perma.cc/RAV6-6ZNE>].

¹³³ *See Search Jobs*, CARDINAL HEALTH, <https://jobs.cardinalhealth.com/search/search-jobs?keyword=Warehouse> [<https://perma.cc/N8M2-PK25>] (last visited Dec. 3, 2019).

interstate commerce. They travel through interstate commerce when patients order them directly or when pharmacies order them to keep them in stock for patients. Congress has the ability to regulate interstate commerce due to the Commerce Clause.¹³⁴ Congress, with the proper incentive, which can partially include the betterment of public health and in turn the health of the sanitation employees, can promulgate legislation to address the lack of a national standard for safe medical needle disposal.¹³⁵

CONCLUSION

Overall, accidental needle-sticks can occur to sanitation workers when used medical sharps are improperly disposed of with regular household waste.¹³⁶ Patients sometimes dispose of loose needles and lancets into everyday household waste, without securing them into thick plastic containers, which would be a safeguard from the sharps being able to pierce through the garbage bags and accidentally stick sanitation workers or associated personnel handling the waste.¹³⁷ The lack of a national medical sharps standard contributes to these accidental needle-sticks.¹³⁸ When patients ask pharmacists how to properly dispose of their used sharps, pharmacists do not have a national standard to counsel patients on what they can adhere to.¹³⁹ There are various states which recommend that patients dispose of their used sharps in either thick plastic containers, such as laundry detergent bottles or red sharps containers, which can be purchased in pharmacies.¹⁴⁰ When pharmacists recommend that patients dispose of these containers in the regular waste, towards the middle of the bag, patients are not satisfied with that answer.¹⁴¹ A national disposal standard for used sharps for patients will alleviate some of the patients' concerns regarding the disposal of their used medical sharps. Congress is properly incentivized to provide for a national standard of safe used medical sharps to protect sanitation workers as

¹³⁴ U.S. CONST. art. I, § 8, cl. 3.

¹³⁵ See Kantner, *supra* note 8 (“Across the U.S., needle disposal is a patchwork of differing disposal guidelines and program access levels.”).

¹³⁶ See Quann, *supra* note 58.

¹³⁷ *Id.*

¹³⁸ See Kantner, *supra* note 8.

¹³⁹ ELEMENTS, *supra* note 23.

¹⁴⁰ VA. DEP'T ENVTL. QUALITY, *supra* note 18; see also FDA, *Be Smart with Sharps*, *supra* note 29.

¹⁴¹ See ME. DEP'T ENVTL. PROTECTION, *supra* note 112. See generally FDA, *Be Smart with Sharps*, *supra* note 29.

part of public health policy and concerns.¹⁴² Not only that, but a national standard will also reduce the environmental burdens and healthcare costs on the public at large, as there will be less of a need for prophylaxis and treatment of affected individuals.¹⁴³

Establishing a national standard of disposal for used sharps in pharmacies with drive-thrus will be a matter of convenience for patients, who can complete two tasks in one location when they go to pick up their prescriptions. A national standard will also provide safety and security to sanitation workers, along with other individuals who come into contact with waste, reducing the risk of accidental needle-sticks from used sharps piercing through the garbage bags.¹⁴⁴ A national standard will reduce healthcare costs associated with the testing, prevention, prophylaxis, and treatment of accidental needle-sticks due to the potential of the used sharps for spreading blood borne diseases.¹⁴⁵ A national standard would also reduce the number of untreated used medical sharps sitting in landfills throughout the years, contributing to pollution and the degradation of the environment, as they can be used for other purposes instead.¹⁴⁶

It is infeasible for the EPA to check the trash bags of every home in the country for improperly disposed medical sharps. The amount of resources that the EPA would have to expend would be quite high, both in terms of capital and in terms of manpower. Therefore, establishing a national standard for the disposal of individually used medical sharps by Congress through its use of the Commerce Clause will not only make disposal more convenient for patients and safer for sanitation workers and associated personnel, but it will also reduce healthcare costs associated with accidental needle-sticks, such as testing and treatment for blood borne pathogens and reduce negative impacts on the environment from medical supplies washing up on shore and causing the closures of beaches, among other impacts.¹⁴⁷

¹⁴² See generally Gostin, *supra* note 122.

¹⁴³ See Kantner, *supra* note 8.

¹⁴⁴ See, e.g., Quann, *supra* note 58.

¹⁴⁵ See Kantner, *supra* note 8.

¹⁴⁶ See DRUG TOPICS, *supra* note 7 (in Portland, the treated medical sharps were used in cement manufacture).

¹⁴⁷ See Gostin, *supra* note 122; Mannocci et al., *supra* note 101; Abrams, *supra* note 94; Goldman, *supra* note 113.