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Statewide Universal Needle Disposal

“Sharps” are a group of different invasive medical devices, including hypodermic needles, syringes, and lancets.¹ The use of sharps is quite common – approximately 3 billion needles are used a year in the United States, according to the Food and Drug Administration (FDA).² Individuals dealing with conditions such as diabetes, rheumatoid arthritis, multiple sclerosis, HIV, Hepatitis C, Osteoporosis, and infertility use hypodermic needles.

The large numbers of sharps used a year create problems in terms of sharp waste. While many sharps are used at health care facilities and can be disposed of by the facility, some are used at home or even in public places. An increase in sharps being littered in public areas may result, causing “fear and repulsion” in the population at large.³

Another concern is the possibility of needle sticks from improperly disposed of sharps. Disposal can be problematic, since simply throwing sharps in the household trash is dangerous to sanitation workers and to others if trash is spilled or scattered. Although needle sticks mostly happen to nurses in health care settings, about 11% of reported needle sticks annually are disposal related.⁴ While there is a risk of transmission of disease (e.g., HIV/AIDS, Hepatitis B, and Hepatitis C) when needle sticks happen,⁵ the chance of transmission is highest shortly after the sharp has been used, and needle sticks rarely transfer disease to nonmedical individuals.⁶ The medical risk may not be great when it comes to transmission of diseases by needle stick

¹ US Environmental Protection Agency, “Community Options for Safe Needle Disposal,” accessed January 29, 2015, <http://www.epa.gov/osw/nonhaz/industrial/medical/med-govt.pdf>.

² US Food and Drug Administration, “Needles and Other Sharps (Safe Disposal Outside of Health Care Settings),” last modified January 27, 2014, accessed February 9, 2015, <http://www.fda.gov/MedicalDevices/ProductsandMedicalProcedures/HomeHealthandConsumer/ConsumerProducts/Sharps/ucm20025647.htm#fn1>.

³ Luc De Montigny, Anne Vernez Moudon, Barbara C. Leigh, and Sun-Young Kim, “A Spatial Analysis of the Physical and Social Environmental Correlates of Discarded Needles,” *Health & Place* 17(2011):3, 757-66.

⁴ Center for Disease Control and Prevention, “STOP STICKS CAMPAIGN,” last modified June 24, 2011, accessed February 9, 2015, <http://www.cdc.gov/niosh/stopsticks/sharpsinjuries.html>.

⁵ US EPA, “Community Options for Safe Needle Disposal.”

⁶ Montigny et al., “A Spatial Analysis of the Physical and Social Environmental Correlates of Discarded Needles.”

long after the sharp has been used, but most victims of a needle stick will go through costly testing for any possible transmissions of diseases.⁷

There are many alternative ways to discard sharps, which we cover later in the report. Some of the traditional methods of combatting sharps being discarded in the streets—such as restricting access to injecting equipment or creating anti-paraphernalia laws targeted at drug abusers—have proven largely unsuccessful and affect legal users as well.⁸ Restrictions on placing sharps in household trash create several problems when it comes to proper sharp disposal. These problems are dependent on how accessible sharp disposal methods are to the public.

Federal Guidelines and State Policies

Through both the Centers for Disease Control (CDC) and the Environmental Protection Agency (EPA), the federal government makes recommendations of how to properly dispose of sharps in the community. The EPA classifies needle sticks as a preventable health risk and gives options for disposal including drop-off sites, hazardous waste collection sites, mail back programs, needle exchange programs, and home needle destruction. There are pros and cons to all of the programs in terms of feasibility and price, and not every program is right for every community. Currently no sharp disposal programs exist at the national level.

Disposal Methods

The Center for Disease Control (CDC) compiled several criteria for evaluating the effectiveness of sharp disposal containers. First, the containers should have the capability to open-and-close, remain leak resistant, and be durable. Also, the CDC considers accessibility and visibility important. Lastly, the containers should be a size that is easy to store and have environmental soundness. States and other institutions have followed the CDC criteria in a variety of ways.⁹ The states that are hereafter referenced were either unique in their methods or consistently mentioned throughout articles detailing disposal methods.

Incinerators and Needle Cutters

These devices can be purchased online or at pharmacies. Incinerators can melt needles or lancets in a few seconds, allowing safe disposal in the trash. Needle cutters clip the tip off, so that the rest of the sharp may be disposed of in the trash. When the cutter is full of needle tips, it must be disposed of with care. New Hampshire's Legislative Commission to Develop Alternatives to the Disposal of Medical Sharps in Household Waste recommends wrapping the

⁷ US EPA, "Community Options for Safe Needle Disposal."

⁸ Montigny et al. "A Spatial Analysis of the Physical and Social Environmental Correlates of Discarded Needles."

⁹ Center for Disease Control, The National Institute for Occupational Safety and Health, "Selecting, Evaluating, and Using Sharps Disposal," Center for Disease Control and Prevention, January 1, 1998, accessed February 3, 2015, <http://www.cdc.gov/niosh/docs/97-111/>.

tips with heavy-duty tape.¹⁰ Minnesota's Pollution Control Agency, in contrast, requests that the clipped needles be taken to collection sites or be eliminated through a mail-back program.¹¹

Disposal Sites

Red biohazard containers are placed in local police stations for needle disposal. Arcadia, Florida in DeSoto County used the police station disposal method, adding the disposal sites to fire stations as well. Members of the public may anonymously dispose of their used needles in these permanent disposal sites located in the lobbies. The annual costs to the DeSoto County Public Health Unit are less than \$200. In conjunction with containers in these public locations, the DeSoto Memorial Hospital issued biohazard containers for private use. Individuals can collect their discarded needles in the containers and take their waste to a permanent disposal site.¹²

Montreal established needle drop boxes in community settings. A 2010 study of Montreal's program found strong evidence that this program reduced unsanitary needle disposal by 98%.¹³ A variety of private institutions have established needle disposal drop boxes in their restrooms to mitigate disposal problems.¹⁴ The City of Santa Cruz installed sharp disposal boxes in public restrooms throughout the city. However, these disposal methods were frequently vandalized and required permanent disposal up to two times a week.¹⁵ Likewise, airports across the country have installed disposal units in terminal bathrooms, and a few airlines have added them to the planes.¹⁶ The Houston Airport System installed wall-mounted sharp disposal units in all 69 public and employee restrooms. The startup funds for this project were \$2,000 with a maintenance fee of \$300 annually.¹⁷

¹⁰ New Hampshire Board of Pharmacy, "NH Sharps," January 1, 2013, accessed February 3, 2015, https://www.nh.gov/pharmacy/publications/documents/nh_sharps.pdf.

¹¹ Minnesota Pollution Control Agency, "Disposing of Needles and Syringes," January 1, 2014, accessed February 3, 2015, <http://www.pca.state.mn.us/index.php/living-green/living-green-citizen/household-hazardous-waste/safe-disposal-options-for-needles-and-syringes.html>.

¹² Donald Towes, "A Communitywide Needle/Syringe Disposal Program," *American Journal of Public Health* 85(1995):10.

¹³ Massachusetts Bureau of Environmental Health, "2012 Statewide Sharps Ban," last modified January 1, 2012, accessed February 3, 2015, <http://www.mass.gov/eohhs/docs/dph/environmental/sanitation/medical-waste/2012-statewide-sharps-ban.pdf>.

¹⁴ Sharps Compliance, Inc., "Needle Disposal and Infectious Waste Control for the Hospitality Industry," last modified January 1, 2014, accessed February 19, 2015, <http://www.sharpsinc.com/solutions/view/hospitality>.

¹⁵ Stephen Baxter, "Discarded Syringes in Santa Cruz County Prompt Questions about Disease, a Needle Exchange and Potential Improvements," *Santa Cruz Sentinel*, January 26, 2013, accessed February 10, 2015, <http://www.santacruzsentinel.com/general-news/20130126/discarded-syringes-in-santa-cruz-county-prompt-questions-about-disease-a-needle-exchange-and-potential-improvements>.

¹⁶ Samuel Dorevitch, Steven E. Lacey, Anders Abelmann, and John Zautcke. "Occupational Needlestick Injuries in a US Airport." *Journal of Occupational and Environmental Medicine* 52(2010):5, 551-54.

¹⁷ Julie Myers, Susan Eppes, Danni Lentine, and T. Jones, "Safe Sharps Disposal in Public Restrooms, Bush Intercontinental Airport, Houston, Texas," *Journal of the American Pharmaceutical Association*, 2002, S118-119.

Mail Back Programs

The EPA suggests mail back programs where sharps are placed in special containers that are mailed to a collection site for proper disposal. Individual users and community collection sites may utilize this resource, which is effective for rural communities and those that do not have a medical waste collection service. The EPA also recommends scheduled special collection days for sharps, or programs in which customers can call a service to collect their sharps.¹⁸

Massachusetts expanded on the mail back program to include 40 sharp disposal kiosks across the state. These kiosks have collected 1.2 million sharps over the course of three years.¹⁹

Sharps Disposal in Vermont

Home

In Vermont, there is no statewide universal sharps disposal system. The Vermont Department of Health published guidelines for proper home sharp disposal. According to these guidelines, Vermonters should dispose of sharps in a strong plastic container (HDPE 2) or a container “specifically made for sharps.” Multiple sharps can be disposed of in the same container, but it should not be filled to the top. The container should be clearly labeled “DO NOT RECYCLE.” Once ready for disposal, the cap should be tightly sealed and covered with strong tape, and then disposed in household trash.²⁰

Street

If a sharp is found on the street, Health Vermont recommends picking up the sharp using heavy-duty gloves and tongs, and then following the above guidelines to dispose of it.²¹ In some cities, including Burlington, the “See, Click, Fix” website is a helpful tool. This tool allows citizens to report non-emergency situations, and relevant community groups or authorities can monitor issues and quickly respond.²² Residents who locate sharps in the community can report the siting and the appropriate authority (typically the Howard Center’s Safe Recovery Program) will retrieve the littered sharps.²³

¹⁸ US EPA, “Community Options for Safe Needle Disposal.”

¹⁹ Massachusetts Bureau of Environmental Health, “2012 Statewide Sharps Ban.”

²⁰ Vermont Department of Health, “How to Discard Syringes and Other Sharps,” accessed Feb 1, 2015, http://healthvermont.gov/adap/documents/sharps_disposal_flyer.pdf.

²¹ Vermont Department of Health, “How to Discard Syringes and Other Sharps.”

²² See, Click, Fix, “How It Works”, accessed Feb 1, 2015, <http://en.seeclickfix.com/how-it-works>.

²³ Selene Colburn, Julie Hathaway, Austin Sumner, and William Ward, “Feasibility Study and Proposal for the Installation of Sharps Disposal Containers at Public Locations in Burlington, Vermont,” Burlington Board of Health and Public Safety Committee, accessed February 1, 2015, <http://www.boarddocs.com/vt/burlingtonvt/Board.nsf/Public>. Click Meetings → On Left Column 2014 → Dec 15, 2014 Regular City Council Meeting → View the Agenda → 4.04 Resolution: Recommending Needle Disposal Action Steps → On Right Column Final Needle Feasibility.

Sharps Exchange

The two main needle exchange programs in Vermont operate through the Howard Center and Vermont CARES. The Howard Center's Safe Recovery Program offers needle exchange for intravenous drug users. They estimate that about 80 people come to the Chittenden clinic per day to exchange needles.²⁴ The Howard Center also "handles the majority of reported used needle retrievals in Burlington, through direct calls and/or referrals from the See, Click, Fix program and the Burlington Police Department."²⁵ The Safe Recovery Program also offers HIV and Hepatitis C testing, Hepatitis A and B vaccinations, overdose reversal kits, and other services "to help people transition from active drug use to long-term recovery."²⁶

Vermont CARES offers a Syringe Exchange program at its St. Johnsbury location and has recently moved into a permanent location to offer this service in Rutland.²⁷ In July 2014, the organization opened a hotline in St. Johnsbury for people to report sharps found in the community.²⁸ While the hotline is still functional, Vermont CARES encourages people to call its main office number to report sharps sightings as well.²⁹

Sharps in Burlington, Vermont

Recently, attention has been given to the problem of improperly disposed needles in Burlington, VT. The Fletcher Free Library closed its bathrooms in April 2014 after toilets became clogged with needles and other drug paraphernalia.³⁰ Likewise, one of public restrooms at Burlington's waterfront closed in June 2014 due to needle waste and other vandalism.³¹

Data from See, Click, Fix Burlington indicates that between May 2013 and April 2014, there were 15 reports of needles found in the Burlington community. During this same time, Safe Recovery reported 78 needle retrievals, including the 15 reported to See, Click, Fix. According to the Feasibility Study, "Burlington's Parks and Recreation Department reports an estimated 20-30 needles are found in area parks every two to three months. Department of Public Works

²⁴ Howard Center, "Safe Recovery: Helping People through the Recovery Process," accessed February 1, 2015, <http://howardcenter.org/Safe-Recovery-Helping-People-Through-the-Recovery-Process>.

²⁵ Colburn et al., "Feasibility Study and Proposal for the Installation of Sharps Disposal Containers at Public Locations in Burlington, Vermont."

²⁶ Howard Center, "Substance Abuse: Outpatient Services," accessed February 1, 2015, <http://www.howardcenter.org/Substance-Abuse/Outpatient-Services>.

²⁷ Colburn et al., "Feasibility Study and Proposal for the Installation of Sharps Disposal Containers at Public Locations in Burlington, Vermont."

²⁸ Kristen Tripodi, "VT Cares Launches a Clean-Up Hotline for Used Needles," *MyChamplainValley*, July 16, 2014, accessed February 1, 2015, <http://www.mychamplainvalley.com/story/d/story/vt-cares-launches-a-clean-up-hotline-for-used-need/65239/9IRNFa-UQEWwNkFvt4Nrka>.

²⁹ Peter Jacobsen, executive director of Vermont CARES, personal communication.

³⁰ Associated Press "VT library bathroom clogged by drug needles," *WCAX*, April 15, 2014, accessed February 1, 2015, <http://www.wcax.com/story/25319074/vt-library-bathrooms-clogged-by-drug-needles>.

³¹ April Burbank, "Needles, Vandalism Prompt Burlington Bathroom Closure," *Burlington Free Press*, June 19, 2015, accessed February 1, 2015, <http://www.burlingtonfreepress.com/story/news/local/2014/06/19/needles-vandalism-prompt-burlington-bathroom-closure/10958705/>.

street workers report weekly sightings of needles, while wastewater workers report near daily sightings.”³²

As a result, the Burlington Board of Health and the Public Service Committee collaborated on a study to determine the feasibility of different needle disposal methods in Burlington. In this study, it suggested four solutions:

1. Continue the community’s partnership with the Howard Center’s Safe Recovery Program.
2. Implement publicly accessible collection boxes for needles, such as small wall mounted units and large disposal boxes.
3. Launch an outreach and educational campaign on proper needle disposal.
4. Reach out to local businesses about their collaboration in needle collection efforts.³³

The Burlington City Council adopted a resolution on December 15th, 2014, calling on the mayoral administration to establish a citywide needle disposal pilot program by April 1, 2015.³⁴

Drug Disposal in Vermont: A Model for Sharps Disposal?

Act 75, designed to strengthen Vermont’s response to opioid addiction and methamphetamine abuse, calls for a recommendation by the Department of Health on the “design and implementation of a voluntary statewide drug disposal program for unused over-the-counter and prescription drugs” by January 15, 2014.³⁵ The report recommends four different disposal options:

1. A 24-hour drug and medication collection site at local law enforcement agencies.
2. A mail-back program, in which Vermonters would mail unused drugs in “prepaid envelopes that would need to be distributed by pharmacies, health care facilities, and law enforcement agencies throughout Vermont.”
3. A program by which law enforcement agents pick up unused drugs at individual residences in the community.
4. The “Element MDS disposal method” or Brattleboro Program, where medications are mixed with powder and water to create a solid gel that can be disposed.

³² Colburn et al., “Feasibility Study and Proposal for the Installation of Sharps Disposal Containers at Public Locations in Burlington, Vermont.”

³³ Colburn et al., “Feasibility Study and Proposal for the Installation of Sharps Disposal Containers at Public Locations in Burlington, Vermont.”

³⁴ Burlington City Council, “Resolution Relating to Recommending Needle Disposal Action Steps – Recommendation & Establish of Pilot Program”, accessed February 1, 2015, <http://www.boarddocs.com/vt/burlingtonvt/Board.nsf/Public>.

³⁵ General Assembly of Vermont, “No. 75. An act relating to strengthening Vermont’s response to opioid addiction and methamphetamine abuse”, accessed February 1, 2015, <http://www.leg.state.vt.us/docs/2014/Acts/ACT075.pdf>.

To complement these disposal options, the report calls for outreach and education efforts “to motivate Vermonters to participate in disposing of their prescription drugs.”³⁶

Due to lack of funding, the Vermont Department of Health has not yet implemented the disposal options recommended in the report.³⁷ In the meantime, Vermonters have several options for drug disposal. Since 2011, Vermont has participated in the EPA’s biannual National Prescription Drug Take Back Days, where “expired, unwanted or unused prescription drugs can be dropped off for proper disposal at collection sites throughout Vermont.”³⁸ By 2014, there were 57 different collection locations throughout Vermont.³⁹ Twenty-four permanent drug disposal sites have also been established in law enforcement agencies throughout the state.⁴⁰ In 2014, Vermont collected an estimated 6,700 pounds of drugs from both Drug Take Back Days and the permanent disposal sites.⁴¹ Currently, liquids and sharps are not accepted.⁴²

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³⁶ Harry Chen and Barbara Cimaglio, “Statewide Drug Disposal Program in Vermont”, Vermont Agency of Human Services and Vermont Department of Health, accessed February 1, 2015, <http://www.leg.state.vt.us/reports/2014ExternalReports/295885.pdf>.

³⁷ Barbara Cimaglio, Deputy Commissioner of Alcohol and Drug Abuse Programs at the Vermont Department of Health, Personal Communication.

³⁸ Communication Office, Vermont Department of Health, “Vermont to Participate in DEA Prescription Drug Take-Back Day,” Communication Office: Vermont Department of Health, accessed February 1, 2015, http://healthvermont.gov/news/2011/102711_rx_take_back_day.aspx.

³⁹ Vermont Department of Public Safety, “April 26, 2014 – Drug Take Back Locations”, accessed February 11, 2015, <http://vsp.vermont.gov/drugtakeback>.

⁴⁰ Vermont State Police, “Drug Diversion Unit”, accessed February 11, 2015, <http://vsp.vermont.gov/drugdiversion>; “List of available agencies,” accessed February 11, 2015, <https://www.google.com/maps/d/viewer?msa=0&mid=z14x-uWlbgqU.kSBgMaYfy7Dc>.

⁴¹ Elizabeth Murray, “After Kinney, Area Police Rethink Drug Drop Boxes,” *Burlington Free Press*, February 8, 2015, accessed February 11, 2015, <http://www.burlingtonfreepress.com/story/news/local/2015/02/08/kinney-area-police-rethink-drug-drop-boxes/22999885/>.

⁴² Vermont State Police, “Drug Diversion Unit,” accessed February 22, 2015, <http://vsp.vermont.gov/drugdiversion>.