



Product Stewardship Briefing Summary

Medical Sharps

May 2019

Purpose of this Briefing Summary

The intent of this briefing is to prepare participants for the May 21, 2019 multi-stakeholder meeting on the safe management of medical sharps waste generated at home or away from traditional health care settings, convened by the Oklahoma Department of Environmental Quality and the Product Stewardship Institute (PSI). The medical sharps problem, focus, goals, barriers, and solutions below are a starting point presented to stimulate discussion prior to, and at, the meeting. We want to develop a thorough understanding of the problems we are trying to address, the goals we are trying to achieve, and the barriers we need to confront so we can explore, and ultimately agree on, joint solutions.

Problem

Medical sharps (including syringes, pen needles, and lancets¹) are safe and convenient devices used by consumers to self-inject medications outside of healthcare settings. Advances in needle design have made them extremely small, sharp, and relatively pain-free to administer often life-saving medications quickly and easily, without the need to travel to a hospital or doctor's office. Syringes have also become an increasingly popular mechanism for the self-injection of medications (e.g., "biologics"), and as the opioid epidemic has grown, so has the use of sharps. More than 7.8 billion injections are administered annually outside of a healthcare facility in the U.S.² Seven percent of needles are flushed, and an estimated 3 billion sharps enter the U.S. municipal solid waste stream each year as trash.³ These disposal methods create the potential for injury or the transmission of infectious diseases to homeowners, sanitation workers, sewage treatment plant operators, and waste management personnel at transfer stations, recycling facilities, and disposal facilities. They are a potential hazard for hospitality workers when left at restaurants, hotels, airports, and other public locations. They also create costly maintenance problems when loose sharps become jammed in equipment, posing a potential hazard to anyone trying to remove them, or to the equipment itself.⁴

Focus

Our meeting will focus on sharps waste generated outside of traditional health care settings, such as households, hotels, casinos, restaurants, airports, and other public venues.

Goals

The goal of this meeting is to increase the safe disposal of sharps by finding consensus across stakeholder groups on a plan for Oklahoma that establishes:

- a safe and convenient disposal system for consumers;

¹ A lancet is a surgical knife with a short, wide, pointed double-edged blade, used especially for making punctures and small incisions. It is widely used by diabetics to test blood.

² Environmental Research & Education Foundation (EREF), Household Needles in Municipal Solid Waste (MWS) Report, 2018. <https://erefdn.org/product/household-needles-in-municipal-solid-waste-msw-report-pdf/>.

³ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4414288/>.

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- a clear and consistent message on safe sharps disposal options for the public, including instructions and disposal locations;
- a statewide strategy to disseminate this unified educational message, avoiding a patchwork of state and local programs; and
- a sustainable funding mechanism for this system that decreases or eliminates the cost to governments and taxpayers.

Barriers

The barriers facing safe sharps disposal include the following:

1. Lack of understanding and education about safe disposal;
2. Lack of consistency across state and local governments regarding policies and public guidance on safe disposal;
3. Lack of convenient disposal options for the public; and
4. Lack of sustainable funding.

Results from a State of California survey indicate that 31 percent of respondents indicated that not knowing where to take their sharps for proper disposal was the most significant barrier, demonstrating the importance of communication and education of currently available options, as well as convenient, accessible collection locations.⁵

Solutions

There are currently a variety of strategies and policies for managing sharps across the country. The following are examples of existing public education regarding sharps disposal:

1. Oklahoma Department of Environmental Quality public education [fact sheet](#) on safe sharps disposal
2. PSI's national public education [fact sheet](#)
3. SafeNeedleDisposal.org state specific guidance (e.g., [Oklahoma information](#))— *not all information on this website is up to date*

Funding Options

There are three basic program types that have developed in the U.S.: a voluntary industry program, a government/taxpayer-funded program, and a mandatory industry-funded program. We will discuss each of these options during our meeting.

Voluntary Program. Although a voluntary product stewardship initiative for sharps in the U.S. has been developed by an industry consortium, it has yet to be promoted publicly.

Government Program. Some states and local governments have allocated funding to collect and dispose of sharps. In Oklahoma, there are two such municipal programs in [Durant](#) and [Midwest City](#).

Mandatory program. An increasing number of governments support having pharmaceutical companies finance and manage sharps take-back programs, most in conjunction with their medication take-back programs. There are currently 10 extended producer responsibility (EPR) laws for sharps stewardship in the U.S. – one at the state level, five at the county level, and four at the city level—all passed in California:

⁵ California Integrated Waste Management Board, “Sharps Survey: Personal Use,” 2007, available at: <http://www.ciwmb.ca.gov/hhw/Sharps/Survey/PersonalRslt.pdf>.

County/State Laws

- Alameda County, CA (2015)
- Santa Cruz County, CA (2016)
- San Luis Obispo County, CA (2018)
- Santa Clara County, CA (Mar 2018)
- Tehama County, CA (Jun 2018)
- CA State (Sep 2018)

City Laws

- City of Santa Cruz, CA (2016)
- City of Capitola, CA (2016)
- City of Scott's Valley, CA (2016)
- City of Watsonville, CA (2016)

Santa Cruz County, CA passed a combined EPR ordinance for pharmaceuticals and sharps that was adopted by all four of its cities. Alameda County and Santa Clara County, CA, passed stand-alone EPR ordinance for sharps to complement their existing pharmaceuticals EPR ordinance. Most recently the state of California passed the first state-level EPR law for sharps. Similar legislation is being considered by cities and counties across the U.S.

Collection Options

Although there is no nationally-coordinated model, there are several proven systems for the disposal of sharps generated in the community. A successful sharps collection program must consider the convenience, financial, and privacy needs of its target consumer group and, most importantly, it must be safe for all involved. Its availability must also be communicated to the appropriate target groups.

Examples of existing collection models include designated collection containers, mail-back, and in-home disposal.

- **Designated collection location.** A drop-box, kiosk, or collection bin may be placed at a retail location (e.g., pharmacy), public facility, or health facility for the collection of used sharps. The consumer would drop off used sharps in an approved collection container. In Oklahoma, most casino restrooms have sharps collection.
- **Mail-back from the home.** When using a mail-back sharps disposal service, consumers order an approved sharps container on-line, which comes accompanied by a pre-paid mailing package that must be approved by the USPS. The consumer then completes a tracking form and returns this with the sharps container once it is filled. This may be the only convenient option for those for whom moving around the community is difficult or impossible as priority mail pick-up can be arranged, or the sealed package handed to the mail carrier directly.
- **Home needle destruction devices.** There are some FDA-approved devices that “treat” the needle in the home so that it can be discarded in the trash (unless the state requires specific disposal methods for both needles *and* syringes). This may be done by burning, melting, or cutting the needle.⁶

⁶ Cutting the needle would not necessarily remove the potential for needlestick injuries, but this is one of the options recommended by the EPA in its booklet, “Protect Yourself, Protect Others: Safe Options for Home Needle Disposal,” EPA530-F-08-004, 2004.

- **Syringe exchange programs.** Syringe exchange programs have become popular over the past 25 years as a means of preventing HIV/AIDS and hepatitis B and C. These programs are typically provided free and designed to target the injection drug user community. The North American Syringe Exchange Network provides detailed information on the programs available in various states on its website at: <http://www.nasen.org>.
- **Residential waste pick-up.** Some communities provide medical waste collection services.
- **Municipal trash disposal.** Most communities allow home generated sharps waste to be disposed in residential garbage, in appropriate containers. This is currently legal in 48 U.S. states, although many do not consider it best practice.

Key Question for Discussion

If a person is using an approved container, is it safe to place it in the household garbage for disposal?

Underlying all management options is the issue of what is an acceptable container for the collection and transport of the sharps to the collection point. Sharps containers adhering to OSHA, DOT, and FDA guidelines are ideal, although some states allow for the use of detergent bottles, coffee cans, or other containers that are rigid and leak-proof. However, the problem with these alternatives is that they may not be as durable as an approved container and, unless properly labeled, could become mixed in with recycling⁷ or municipal solid waste. On the other hand, they are commonly available and do not require an additional cost to the consumer.

Treating Collected Sharps

Numerous companies provide medical waste hauling and treatment services, often for the regulated healthcare industry such as hospitals, clinics, ambulance services, doctor's offices, and professional medical services provided in the home. There are different options for the "proper" disposal of medical waste, including sharps, depending on the vendor. Several different treatment methods are used, depending on the collection service, facilities available, and state and local regulations. However, they all fall into the categories listed below:

- Incineration either separately or with MSW;
- Wet, low-temperature thermal technologies (autoclaves, microwaves, and other steam-based systems);
- Dry, low-temperature thermal technologies (dry heat systems);
- High temperature thermal technologies (depolymerization, pyrolysis, and others);
- Wet and dry chemical technologies (chlorine and non-chlorine systems); and
- Others (irradiation, e-beam, biological).⁸

Costs of Current Disposal Options

The costs of appropriate disposal programs and services for home-generated sharps include the sharps container; collection container (kiosk, bin); transport, treatment and ultimate disposal of the waste; documentation (of mail-back, for example); outreach and education; and oversight at the collection location and of the program overall.

⁷ David Lamm and Sharon Adams, "Removing Needles from Trash in Indiana: A Necessary Effort," *Journal of Environmental Health*, September 2007.

⁸ Mark Iske, Healthcare Solutions WM, via email, May 9, 2008.