

Dangers of Used Sharps in Household Trash

Implications for Home Care

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Between 8 and 9 million Americans are self-injecting medication at home, and the majority of the needles used are being thrown into the household trash. It is up to all stakeholders, including healthcare professionals, to help change the way these dangerous needles and other sharps are discarded. Are you giving your patients the correct information?

Healthcare professionals, if anyone, understand that improperly discarded needles/sharps present a potential health concern for anyone who may come in contact with them. These improperly discarded needles can spread pathogens and infectious diseases such as human immunodeficiency virus (HIV)/acquired immune deficiency syndrome (AIDS) and hepatitis. Yet in 1 year, 9 million people (Coalition for Safe Community Needle Disposal, 2007) will administer at least 3 billion injections (Macalino, Springer, Rahman, Vlahov, & Jones, 1998) outside the traditional healthcare setting, most likely in their own homes, but also at restaurants, hotels, sport and recreational facilities, and other public facilities. Two thirds of these people are injecting for medicinal purposes ranging from diabetes to arthritis to hepatitis, whereas 1 billion injections are attributed to illicit drug use (Office of National Drug Control Policy, 2000).

There are no federal regulations governing the safe disposal of needles and syringes, and the majority of the afore-



mentioned needles end up in the household trash. This poses a serious health risk to children, solid waste workers, sewer disposal workers, recycling industry employees, janitors, hospitality workers, neighbors, pets, and the entire community.

To address this problem, the Coalition for Safe Community Needle Disposal, a nonprofit organization, was formed in 2002 by a group of concerned businesses, nonprofit organizations, governments, and community groups. The Coalition's goal is simple: to remove needles from the household garbage and promote safe solutions for the disposal of needles, syringes, and other sharps in the community (Coalition for Safe Community

Needle Disposal, 2007). To achieve these goals, the Coalition strives to develop partnerships with groups, including healthcare professionals, to raise awareness, to create public education and informational programs, and to explain the importance of safe needle-disposal programs.

Currently, needle-disposal laws are the responsibility of state and local governments. The Coalition works with willing local, state, and federal governments to amend laws, regulations, and policies to ensure that safe sharps-disposal programs are available and that syringes will no longer be discarded in the trash or in public locations such as parks, buildings, or streets. The Coalition also is working to identify and publicize methods that individuals and communities may use to safely dispose of used sharps. Grassroots efforts are being organized to raise awareness for low-cost, user-friendly programs that will ensure the participation of home-based injectors in these programs. It is most important that healthcare providers and professionals become involved because they play a vital role in promoting awareness of safe sharps disposal, formulating stakeholder partnerships, and changing

laws, policies, and regulations to increase access to safe disposal programs.

Federal Guidance

Because household trash is regulated at the state and municipal levels, the U.S. Environmental Protection Agency (EPA) can only offer guidance in safe needle disposal (EPA, 2004). In 2004, the Coalition worked closely with the EPA to change the federal recommendations for safe needle disposal outside the traditional healthcare setting. The new recommendations request that individuals using sharps participate in safe sharps-disposal programs and not throw needles, syringes, and lancets into the trash or a container that then goes into the trash. These items pose a health risk to the public, particularly workers such as garbage collectors, recycling center employees, janitors, and housekeepers. These new recommendations are found in the publication *Protect Yourself, Protect Others: Safe Options for Home Needle Disposal* (EPA, 2006). The EPA has a second publication for local governments entitled *Protecting Your Community from Sharps: Options for Safe Disposals of Sharps* (EPA, 2004).

The Problem Defined

It is estimated that 1 of every 12 households in the United States is using sharps (Coalition for Safe Community Needle Disposal, 2002). Nearly 21 million Americans have diabetes (American Diabetes Association, 2007). People with diabetes comprise the largest group of patients using lancets, needles, and syringes on a consistent basis in the community (American Dia-

betes Association, 2007). It is predicted by the Centers for Disease Control and Prevention (CDC) that 7% of the population will have diabetes by 2050 (American Diabetes Association, 2007), further increasing home use of sharps.

Other conditions that require self-administered injections include osteoporosis, multiple sclerosis, HIV/AIDS, hepatitis C, migraines, cancer, and psoriasis. Patients also self-administer blood thinners, growth hormones, infertility treatments, vitamin B12, and allergy shots. In

through injection or infusion. Biologics are expensive to develop, manufacture, and deliver. Typically, biologics, designed for chronic diseases, are believed to bring patients into compliance with their disease. In many cases, patients using traditional treatment (oral medications) either cannot reach or maintain compliance or stability with their treatment. A recent survey of the biotechnology pipeline identified 418 biotechnology medicines in development for more than 100 diseases (Herskovitz, 2005).

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addition, various medical conditions of pets require injections. As patient care continues to move from inpatient settings back into the home, pharmaceutical companies are developing more self-injecting drugs for treat at-home patients.

New Designer Drugs

In the next 10 years, a growing number of biologics or “designer” drugs will be introduced to the market as treatment for a variety of illnesses, including hypertension and other chronic diseases. Most biologics are made up of molecules that are too large and can be destroyed in the digestive system. Therefore, they are administered

Who Uses Sharps and Syringes?

As patients are discharged from hospitals before total recovery, they may require support previously provided only in a hospital. This trend is introducing many procedures and medications into the home environment. In many of these cases, the care involves injections self-administered or administered by family members or caregivers. Patients receive short-term support from a home health agency to learn self-injection and then independently manage their disease.

For example, patients with diabetes may be following a regimen involving 2 different types

of insulin that cannot be mixed, requiring 4 separate insulin syringes to be used during a day. New hormones (Symlin and Byetta, examples of new biologic drugs) are being used by patients with diabetes, which may require an additional 1 to 3 injections per day, increasing their syringe and needle use to 7 per day. Along with the injection of insulin, these patients may be testing their blood glucose levels 4 to 10 times a day

Patients frequently are not given instruction regarding the disposal of needles. Patients discharged from the hospital and receiving home care may be given a needle-disposal container, but provisions for specifically disposing of the container may not be made. In the past, hospitals and physicians' offices accepted "used" sharps, but due to the high cost of medical waste disposal, this courtesy is rarely offered. A search

On a positive note, safe disposal solutions are offered by a growing number of public facilities including airports, hotels, and large public venues that provide needle-disposal containers in rest rooms. Some hotels also are providing disposal containers upon request.

Solving the Problem: Collaboration and Communication

Existing disposal programs have generally been established through collaboration among multiple community groups including local governments, environmental health agencies, solid waste authorities, pharmacists, diabetes advocacy groups, healthcare facilities, and medical waste haulers. These programs usually have been organized by the solid waste agencies and environmental health groups, with funding from the agencies involved.

Currently, both community and national programs exist. The Coalition offers a complete list of state laws and a database of existing programs on its Web site, which can be accessed at www.safeneedledisposal.org.

In the past 2 years, 5 states have introduced legislation that offers residents safer needle disposal options (Massachusetts, New Jersey, California, Louisiana, and Pennsylvania). Oregon and Wisconsin have forbidden the disposal of medical waste (including sharps) into household waste for more than a decade. New York requires by law that all nursing homes and hospitals accept used sharps from the community. Florida has been aggressively addressing this issue county by county. Already more than half of the counties in Florida offer resi-

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using a lancet, further adding to the number of sharps used in a single day.

How Do Patients Dispose of These Sharps?

Surprisingly, despite EPA recommendations and state regulations about disposal, patients continue to throw needles directly into the garbage. In a study by diabetes educators, 93% of the individuals polled stated that they place their needles in the trash, whereas 3% stated that they flush their needles down the toilet. Only 4% reported disposing of their syringes and needles in a puncture-resistant container (McConville & Hamilton, 2002).

of well-known diabetes Web sites found that needle-disposal equipment and programs were seldom discussed.

When patients are given instruction regarding sharps disposal, they frequently are directed to dispose of them in a plastic detergent bottle or a coffee can. However, these containers are then placed in the trash or in recycling bins. In this situation, the garbage or recycling truck's compactor causes containers to break, distributing sharps and syringes throughout the truck's contents and increasing the risk of worker needlestick injuries. Patients administering their medications while at work or in a public place frequently discard needles in the trash.

dents a community drop-off program sponsored by the county public health department. However, the vast majority of the population does not have safe disposal options available in their own community.

Types of Programs

Sharps disposal programs can be divided into 2 categories: community centered and patient centered. Community-centered programs are those set up by the community. A growing number of grassroots efforts are taking place across the United States, with communities developing and implementing effective programs whereby patients can drop off used needles. For example, The Diabetes Foundation of Rhode Island (DFRI) developed a kiosk program with the help of participating pharmacies and a medical waste hauling company. This program was the result of an increased number of needles being discovered in the household trash. The waste company worked with the DFRI to develop and implement the community program, and as a result, the number of needles being placed in the household trash drastically decreased.

Community Programs

Community programs use several tactics to ensure safe sharps disposal and collection: drop box collection sites, residential special waste pickup, household hazardous waste collection sites, and syringe exchange programs.

Drop Box Collection Sites

Some communities allow individuals to take full containers of discarded sharps to drop boxes that may be located in pharmacies, police and fire stations, doctors'

offices, hospitals, clinics, health departments, public places, or medical waste facilities. Most states do not offer these programs, but they are available in Wisconsin, Rhode Island, and some counties in Florida.

Residential Special Waste Pickup

Some communities have established systems whereby special sharps containers, similar to recycling containers, are placed outside homes to be picked up by specially trained waste workers. The program may require a requested pickup, or waste may be collected on a regular schedule. This type of program works very well in smaller communities.

Household Hazardous Waste Collection Sites

In some areas, individuals may take a sharps container or another approved container to a household waste collection site and place it in a designated collection box. These sites also may collect such items as oil, batteries, paints, and household cleaners. However, it is important to check with local waste collectors to determine whether they will accept needles and syringes. California is one state that supports household hazardous-waste facilities to accept sharps from the community. Pulaski County in Arkansas also accepts sharps at its household hazardous waste sites.

Syringe Exchange Programs

Syringe exchange programs allow injection drug users to exchange used syringes and needles for new ones. The used needles are then properly discarded at the collection site. Controversial nonprofit groups and some state and local governments fund these types of programs to

prevent the spread of infectious diseases by needle sharing. Frequently, these programs also offer other services such as HIV and AIDS education; referral to substance abuse treatment programs; distribution of alcohol swabs; on-site HIV, tuberculosis, and hepatitis screening; and counseling. Syringe exchange programs are available in areas of California, Illinois, Michigan, Minnesota, New York, North Carolina, Ohio, Oregon, Pennsylvania, Rhode Island, Vermont, and Washington. For more information on the availability of a needle exchange program in your area, contact the North America Syringe Exchange Network at 253-272-4857 or online at www.nasen.org (North America Syringe Exchange Network, 2007).

Patient-Centered or National Programs

Due to the low number of community programs, the majority of U.S. patients must find their own solution for safe disposal of used needles, using either patient-centered or national programs. Currently, a number of disposal programs exist whereby patients can purchase needle-destruction devices or participate in a sharps "mail-back" program. A growing number of devices are currently being introduced to the market that help eliminate needles for the household trash. The greatest challenge patients face is cost. Typically, these products are not covered by insurance companies.

Mail-Back Collection

Sharps and syringes are placed in special containers, then mailed to a collection site for disposal. Mail-back programs are becoming more available, and patients may purchase a

sharps-disposal system at the local pharmacy. Included in the system is the envelope in which to mail the container. The cost for this service is included in the purchase price. This system is effective for rural communities and for locations that do not provide medical waste pickup such as schools, hotels, restaurants, and other public venues. These systems meet the safety and other requirements of the United States Postal Service for the shipping of disposable waste.

In-Home Needle Destruction Devices

A variety of needle-destruction devices bend, break, incinerate, or shear needles and other sharps, making them safe for disposal. These usually are available in pharmacies or durable medical equipment supply stores. It is unfortunate that at this writing, none of these products are covered by insurance, so there is a cost factor. In lieu of destruction devices, patients may use retractable needles and lancets. However, these products are more expensive.

What Should Home Health Nurses Tell Patients?

Home health nurses have a direct link to patients and can educate them on safe needle disposal practice more than any other healthcare provider. Home health nurses have the unique opportunity to witness what is happening in the patient's home. Patients depend on the advice provided by home health nurses in answer to their health management questions. It is important for each home health nurse to know the needle

disposal laws of his or her state, and more specifically, those in the local community. The general rule for home health nurses is that if they bring the medication and device to the patient's home, they are then responsible for the needle's disposal. If the medication is being provided by the patient, and the home health nurse is helping to administer the medication, the patient is responsible for the needle's disposal.

Frequently, home health nurses are asked to dispose of their patients' sharps containers. Because nurses are not transporting more than 50 pounds of medical waste, they are exempt from the Department of Transportation Medical Waste Laws, allowing them to dispose of these containers if permitted by the home health nurse employer. It is important to know whether your employer accepts medical disposal from patients or not. Consider the following factors when advising patients what to choose:

- Know your patient. If a patient requires injections for only a short term (e.g., blood thinners after hip surgery, infertility treatment, allergy shots), a 1-time sharps mail-back program is most likely the best solution.
- If your patient requires long-term therapy (e.g., insulin for diabetes or treatment of HIV), a home needle-destruction device may be the most economical. The initial cost can be high, but these devices are the most cost effective.
- Patients using injection therapies to treat highly infectious diseases should be

instructed concerning the public health risk and the importance of proper needle disposal. It is extremely important to emphasize the absolute necessity of protecting the community from exposure. For this reason, sharps must be discarded properly and not placed in any household trash.

For more information and the instructional brochure entitled *What Do I Tell My Patients*, contact the Coalition for Safe Community Needle Disposal at 800-643-1643, or view it on their Web site at www.safeneedledisposal.org/resbrochure.html (Coalition for Safe Community Needle Disposal, n.d.).

Ongoing Efforts

Efforts are currently directed at passing legislation to cover needle-disposal containers as an item covered through Medicare. The Coalition is working closely with federal and state governments to further the development of safe sharps-disposal programs. If you are interested in starting a sharps-disposal program in your community, contact the Executive Director of the Coalition for Safe Community Needle Disposal at 800-643-1643 or at jschumann@safeneedledisposal.org. The Web site is www.safeneedledisposal.org.

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