

# **Management of Home Generated Pharmaceutical Waste**

## **Introduction**

Pharmaceuticals play an ever-increasing importance in our lives. Pharmaceutical research and baby boomers have spurred a significant growth in the use of pharmaceuticals. Manufacturers continue to produce products designed to improve our lives ultimately extending life expectancy and improving the quality of that extended life.

With this progress comes the challenge of what to do with the growing quantity of waste pharmaceuticals. The waste stream includes prescription and over-the-counter medications. Everything from aspirin, cough suppressants to heart medications are included in the term "pharmaceuticals." Virtually all products have expiration dates which creates waste for those who do not use the medicines by the time they expire. Prescriptions are no longer needed by some as their ailment is cured.

The quantity of waste pharmaceuticals in households is unknown but studies and anecdotal data indicate that there are significant quantities in medicine cabinets and around homes that require proper disposal.

## **Environmental Impact of Pharmaceuticals**

Studies have indicated that pharmaceuticals passing through our bodies flow into the sewer system and are released into bodies of water without treatment. While technology to manage this problem may be implemented in the future, there is little that can be done about it now.

There is something that can be done about waste pharmaceuticals entering the water supply. If these materials can be collected and destroyed, the quantity of harmful chemicals from waste pharmaceuticals can be prevented from entering the water supply. The following discusses a comprehensive concept to contain this problem.

## **Legal Issues With Collecting Pharmaceuticals**

About 8% of all pharmaceuticals are controlled substances. The U.S. Controlled Substances Act prohibits any person from possessing substances listed in the controlled substances act unless they are part of the manufacturing, distribution system or a person with a prescription for the product. This does not include drugs which are illegal for any person to possess.

The other 92% of substances are not controlled by any government agency at the present time and represent what studies indicate are the main culprits affecting the water supply. It is this group that this document will focus on.

## **Ethical and Liability Issues**

Any program which allows the public to deposit their pharmaceuticals for disposal offers exposure to the program organizers unless the following issues are clearly and competently addressed:

- Possibility that controlled substances will be part of the waste stream
- Any person knowingly accepting controlled substances is committing a crime
- A container with a person's name and other information could get into the wrong hands
- Any pharmacist or pharmacy employee accepting pharmaceuticals at the point of dispensing drugs is likely violating their state board of pharmacy regulations. The waste could be resold. The pharmacist could lose their license.
- Are the persons who accept the materials vetted? Do they participate in a drug testing program?
- Is the waste destroyed to deter theft while being stored?
- Is the program designed to avoid any person other than the one depositing the waste from coming in contact with any containers?
- Does the public education CLEARLY inform the public that only non-controlled substances are accepted? Clearly means that there is no doubt when anyone views the materials, the caution is not hidden two pages in or in small type.

According to the D.E.A., public employees are not immune from prosecution. Any person knowingly in possession of a controlled substance is committing a crime.

If, however, the program is designed properly, all negative issues described above can be avoided and potential liability can be minimized to almost non-existent.

## **Policy Issues**

Should manufacturers and/or pharmacies pay for the cost of developing home generated non-controlled pharmaceutical collection programs?

Should public agencies pay the cost of developing a program?

Should the end user be responsible for the cost of disposing of their own waste?

It is our opinion that the most cost effective, sustainable program is one where everyone is involved.

## **Disposal Opportunities**

Pharmacies are clearly the best location for pharmaceutical waste to be deposited. Most pharmaceuticals are obtained at local pharmacies making them perfect for the disposal of their waste medications.

There are a number of reasons why a pharmacy may want to collect waste pharmaceuticals from the public. Offering a public service is a top reason followed by an opportunity to sell something to a new customer using the waste disposal service.

Who benefits if a pharmacy agrees to accept waste pharmaceuticals from the public? The public of course, the pharmacy and consider that the City or local public agency does as well. The public believes that any public health issue is inherently the province of their local government agency. The City, water district or other public agency usually understands this and accepts the responsibility.

It is in the public interest for the local public agency to partner with the pharmacy by informing the public of this valuable public service. Everything in the public education arsenal should be utilized to help the pharmacy reduce the quantity of waste pharmaceuticals that could have a negative impact on the environment. Some public agencies may have funding to help jump start a program. Sustainability is critical and public funding should not be relied upon for a long term program.

So where do manufacturers come in? They can support the pharmacy who is their customer in any way that they deem commensurate with the volume of products that are sold to their pharmacy customers. By helping a pharmacy defray part of the cost of a waste pharmaceutical collection program, their name could be associated with the effort.

What was just described above is a 100% volunteer system without the need for legislation, costly collection, funds distribution systems and red tape. There is no need if this system is successful for legislators to believe that it is necessary to require pharmacies or pharmaceutical manufacturers to take action since it will already have been done on a volunteer basis through this concept.

It may not be appropriate to require all pharmacies to take back home generated pharmaceutical waste since a portion of all pharmaceuticals are purchased either over the counter from non-pharmacies or shipped through the mail as a result of internet purchases. This does not count purchases made across the border. What about pharmacies that do not cater to the public i.e., serving nursing homes? A public-private partnership can work through these issues without legislation.

It is not necessary that every pharmacy implement a program just that some do. Perhaps as few as 10% of all retail pharmacies could well serve the public. If pharmaceutical manufactures are supporting a small percentage of pharmacies, the funds they expend may be in line with what they sell in a given area.

Public agencies are generally enthusiastic about supporting programs that promote the public welfare. In most cases they need not spend more than they are already spending to get the word of the program out to the public. Elected officials can feel good about a program that cost the public little or nothing to implement.

What about the public? They are spending money purchasing pharmaceuticals and other products at a pharmacy that is providing them with the goods and services they desire. If they can purchase their new pharmaceuticals and deposit their waste pharmaceuticals at the same location, they may purchase other products at the same time. Even if they do not, they will not have to go to another location to dispose of their waste pharmaceuticals.

## **The Program**

Curbside has designed a program that insures all parties are protected from the potential of liability and the appearance of impropriety. The program begins with a pharmacy agreeing to accept waste non-controlled pharmaceuticals from the public. Curbside will place a custom designed “drop-box” inside the store.

The public will be informed about the program driving individuals to the drop-box. This is a completely self service unit. A person simply pulls the front down (similar to a mail box) and drops the containers in. Any type of container is accepted including liquids, foil packs, birth control units, etc. This is a one way unit. Once in, the waste can not be removed without the use of two keys to open the front.

The pharmacy has the keys to one lock, Curbside to the other. When the unit is ready to be emptied, a Curbside employee and a pharmacy employee will jointly open the drop-box. The box is removed, closed up and transported to the parking lot. At that point, the Curbside employee empties the contents of the box into the hopper of a specially designed machine which crushes the waste into powder and plastic pieces.

The activity takes about five minutes at which point the pharmacy employee signs a document witnessing the destruction of the waste. From there, the waste is shipped to a hazardous waste incinerator. At no time has one person had access to the waste nor can it be used once destroyed on site.

Local public agencies will work with Curbside’s marketing department to launch a public education effort at the lowest cost to the agency. Usually the effort becomes part of what they are already doing to communicate to the public.

The cost of the program is paid by the participating pharmacy to Curbside. The public agencies support the program and the residents use it. The end result, less pharmaceutical waste entering the environment. Pharmaceutical manufacturers can choose to support their pharmacy customers by assisting with the cost of the program. The point is to avoid unnecessary legislation that would require payments that would likely be more than that offered in this concept.

This program addresses a number of concerns:

- Pharmacists and employees are not at risk since they do not take possession of any of the waste pharmaceuticals.

- No private information is exposed because the waste is destroyed.
- The drop-box does not permit unauthorized access.
- Since the program clearly advertises that it accepts only non-controlled substances, should there be any in the mix, it would never be discovered since no person is permitted access to the materials.
- At the point that the waste is destroyed, should there be any controlled substances in the waste, it would never be known.
- Curbside's agreement with the pharmacy requires the pharmacy to indemnify the City and any other entity involved in the program including Curbside Inc.

Recently, the California Integrated Waste Management Department sent letters to two Orange County pharmacies informing them that they were the only two pharmacies that had met the CIWMB guidelines for the model pharmaceutical and sharps take-back programs. Both pharmacies followed the concepts outlined in this document.

#### ACTION STEPS FOR PUBLIC AGENCIES

We recommend the that the following action steps be taken to help support pharmacies that agree to participate:

- City should market this program as theirs. Regardless of who pays for the disposal of the waste, adopting this as a City program will improve it's changes for success.
- Provide public education support for participating pharmacies to include but not be limited to web site, publications, news release, recognition by city council etc.
- Offer financial support to either pay for the rental of the drop-box(s) or disposal of waste or some combination. The cost of supporting a pharmacy is very small with big benefits. While some pharmacies will agree to pay 100% of the cost, others will want to share the cost, they are providing valuable space.

*Curbside Inc. has pioneered innovative programs for the collection of hazardous and medical waste from homes and small businesses for the past 14 years, serving customers from coast to coast. We were the first to provide home collection of hazardous, pharmaceutical and sharps waste. The program presented in this flyer is a first of its type approach to the management of home generated sharps and pharmaceutical waste.*

*The program described above meets and exceeds the State of California, CIWMB Model Program Guidelines for Home Generated Pharmaceutical and Sharps waste disposal programs.*