

## The Challenge of Managing Regulated Medical Waste Costs and Its Environmental Impact

**Publication Date:**

Sunday, October 19, 2014

Medical treatment centers (MTC), including hospitals are being challenged more than ever before to find ways to reduce their operating costs. As a result, a growing number of the MTCs are finding effective ways to save hundreds of thousands of dollars each year by cutting their waste management expenses. The most effective and most popular strategy has been to [reduce the amount of regulated medical waste \(RMW\)](#). Program initiatives and employee awareness campaigns have enabled MTCs to segregate and separate non-regulated medical waste from RMW. Since RMW disposal methods cost 10 times more than non-regulated medical waste disposal, reducing the amount of RMW has resulted in huge cost savings. In fact, RMW costs that once represented 50-70% of the total waste management costs, now represents only 5-15% of that total.

Susan Kaplan, research assistant professor at the University of Illinois-Chicago's school of public health, stated "the industry as a whole could save \$5.4 billion in five years and up to \$15 billion in 10 years if it adopts sustainable practices." By reducing RMW, the MTC are also reducing their foot print in landfills. [Sustainability programs](#) have become increasingly popular among administrators and staff within the healthcare community.

According to Kelly Weisinger, program coordinator for Emory University's Office of Sustainable Initiatives, "The focus is on patient care and outcome and everything else is secondary to that, which is the way it should be. But more and more I think healthcare practitioners and staff members are becoming aware of what they're doing and how they could be doing things a little differently for the benefit of their employer, for the benefit of public health and for the benefit of the environment. [Efforts are underway to reduce, reuse and recycle](#). It's all part of a goal to divert landfill waste by 65 percent across all of Emory University by 2015 through sophisticated recycling and composting programs."

[Centers for Disease Control \(CDC\) suggest](#) that only 2-3% of hospital waste truly needs to be disposed of as infectious waste. Further reducing the amount of RMW and its related costs clearly create a dilemma for the MTCs on how to dispose of infectious fluid medical waste cost effectively, reduce the impact on landfills and water (environment) and keep their employees as well as the general public safe.

There are two common methods for disposing of infectious fluid waste, 'red bagging' and 'down the drain'. Red bagging requires expensive solidification methods and off-site incineration or transportation to a landfill. Although state and local regulations vary, federal agencies approve disposing untreated infectious medical waste down the drain into the sanitary sewer system for treatment. Down the drain disposal is the most cost effective method to reduce RMW costs. However, it also has a high risk of exposing employees to splashing and spills. Pouring infectious fluid medical waste down the drain also places an additional burden on municipal wastewater treatment plants, thus increasing the risk of spreading infectious diseases into the environment. Both methods pose a continued threat to human health and the environment.

New products that support the down the drain method are on the market today. These closed systems are designed to reduce disposal costs and provide employee safety by transferring infectious fluid medical waste from the operating room directly to the sink or sewage drain. While these products are designed to keep employees safe, they do not treat the infectious fluid medical waste before discharging into the sanitary sewer system.

Municipal wastewater treatment plants were designed to treat human waste; they do not have the capability to properly treat bloodborne pathogens, pharmaceutical drugs and other chemical compounds, so they pass on into the environment, regardless of the increased amounts of chlorine that is used in an attempt to treat the waste. Moreover, today's aging sanitary sewer system infrastructure must handle annual increases in fluid waste volumes as well as stormwater runoff, resulting in leaks and overflows of untreated sewage into the environment. This combination of untreated sewage discharge and escalating levels of chlorine creates an additional public health burden upon our local communities and watersheds.

[According to Derek Muir of Environment Canada](#) and colleagues “30,000 or so chemicals used commercially in the United States and Canada, about 400 resist breaking down in the environment and can accumulate in fish and wildlife. Researchers estimate that of this 400, only 4 percent are routinely analyzed and about 75 percent have not been studied. These 'emerging chemical contaminants,' or ECCs, are not necessarily all new substances. But with improved detection technologies, their unexpected potential impacts on the environment and human health are just now coming to light.”

There is growing awareness that the disposal of untreated, infectious liquid wastes into sanitary sewer systems poses an emerging threat to our communities and the environment. Currently, there is no affordable infectious fluid medical waste system commercially available that disinfects biological infectives for safe discharge down the drain to the sanitary sewer system. As regulations for infectious fluid medical waste continue to increase in scope and penalty, improving disposal methods should be a top priority for the MTCs and any health care facility.

Looking for further information regarding the safe and cost-effective management of fluid medical waste? Follow the link to learn about an [on-site solution for managing RMW](#).

#### **About Innovasan:**

We are a clean technology company providing advanced technology solutions to treat biological and pharmaceutical fluid waste streams.

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