2017 Safety Award entry
Best Safety Innovation
Sustainable Materials Management
Boulder County Resource Conservation Division
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Boulder County Improves Waste Safety with Sharps & Medical Waste Disposal
County of Boulder, Colorado
Approximate Population: 322,226 (2016 estimation)
EXECUTIVE SUMMARY: The Boulder County Recycling Center (BCRC) and Hazardous Materials Management Facility (HMMF) face continual safety concerns with the occurrence of sharps and other medical waste arriving in material sort lines. This poses health safety threats to nearly everyone involved in the waste stream from the generator’s roommates and/or families, waste collectors, and the waste sorters working in county facilities. In response to these concerns, the Boulder County Resource Conservation Division initiated a sharps and medical waste collection program designed to reduce safety risks for all relevant parties and provide safe means of disposal to local generators of medical waste. Though operations at the BCRC and HMMF don’t record instances of medical waste arriving at either facility, workers at each have noticed significant decreases in frequency and the program as a whole helped facilitate the safe disposal of 10,520 pounds of medical waste during 2016.

Describe the safety innovation you implemented in 2016 (during either the calendar or fiscal year—if the fiscal year, give dates), and what hazards you were seeking to address in taking this action:
The Sharps and Medical Waste Disposal Program began in 2015 and the first full year of operation was 2016. The program was initiated with the facilitation of a Boulder County Zero Waste Funding grant that helped roll out responsible medical waste disposal programs at several sites throughout the county including the Jail, the HMMF, the Coroner’s office, the Juvenile Detention Center, and several locations managed by Public Health including a private organization called Mental Health Partners. Though each facility featuring medical waste disposal does not necessarily provide all of these collection options, the program provides disposal locations for several different types of medical waste including pharmaceuticals, sharps, biohazards and pathological-related waste. Most of these locations feature safe and convenient drop-off boxes where residents can bring in their home-generated material such as expired medications or used sharps from diabetes injections.

Without the safe and responsible sharps and medical waste disposal options provided by Boulder County, medical waste generators are much more prone to improper management of these materials. When improperly managed, materials such as discarded needles and other sharps can pose serious health risks to waste workers by potentially exposing them to accidental needle sticks and potential infection. Used needles and sharps can transmit serious diseases and reducing any potential contact between waste workers and these materials is of the utmost priority.

How did you measure results for your program before implementing your innovation?
Because instances of medical waste arrival are typically recognized before becoming a health and safety risk, they are not recorded for frequency at either the BCRC or the HMMF. They are dealt with on a per-instance basis by careful removal and storage prior to disposal in a special container but frequency is not a metric that has been captured. Only if a medical waste-related accident occurs (such as a needle stick) is the instance recorded.
What results did you use as a baseline for comparison between the old program and the program after the innovation?

Since medical waste arrival at the HMMF and BCRC are only recorded when instances result in accidents, we do not have a concrete baseline to compare improvements to besides accident numbers and observed (but not recorded) occurrences of arrival.

Over what period of time was the innovation implemented, and how?

The Sharps & Medical Waste Disposal Program began in 2015 and the first full year of operation was 2016. Disposal options are available to the public year-round however access to most drop-off locations is limited to each facility’s business hours given that most are located indoors. Medical waste disposal is not facilitated by active program collection meaning that participants must physically bring any waste to drop-off locations themselves with the exception of pharmaceutical mail-back options available at certain locations.

What were the results of the innovation and how do they compare to the baseline you had established?

While we only record accidents and do not take physical note of each individual instance of medical waste mistakenly arriving at the HMMF or BCRC, only one minor accident related to medical waste has occurred in the last three years, and none have taken place since the program initiated. Employees at both facilities have observed noticeably fewer receptions of medical waste. Throughout 2016 the Sharps & Medical Waste Disposal Program facilitated the safe disposal of 10,520 pounds of material – material that could have otherwise made its way into the HMMF or BCRC waste streams, endangering the health and safety of Boulder County waste employees.

Why do you think your safety program deserves this innovation award?

Sharps and other medical waste being mistakenly disposed of in improper ways poses serious health and safety threats to many people involved in the waste stream. Though rarely resulting in injury prior to the program initiation (and not at all since starting), medical waste arrival still poses significant safety threats to waste workers given the highly dangerous nature of the diseases potentially transmittable through contact. Since previous efforts to mitigate this problem – such as public outreach campaigns – have lacked success in significantly deterring improper medical waste disposal, the Boulder County Resource Conservation Division initiated an innovative approach to the problem. This program addresses the lack of appropriate disposal options other than landfilling, and provides county residents with the means to safely and responsibly dispose of medical waste. In doing so, this innovative approach goes beyond traditional (and largely unsuccessful) means of deterring improper disposal, and instead provides an outlet for direct diversion of that material from the BCRC or HMMF receiving lines.