Surveillance of Hazardous Substance Releases Due to Equipment Failure in Manufacturing, 2001-2008

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ABSTRACT

From 1990-2009, the Hazardous Substance Emergency Events Surveillance (HSEES) program, established by the Agency for Toxic Substance and Disease Registry (ATSDR), collected and analyzed information about acute releases of hazardous substances. Data from HSEES is used to describe and prevent the public health consequences of hazardous substance releases.

Using data from the 17 participating states, this analysis focused on HSEES events involving equipment failure in manufacturing industries.

A total of 17,992 events related to equipment failure occurred in manufacturing industries from 2001-2008. Over 86% of the events occurred in the industries that manufactured paper, printing, chemicals, petroleum, leather, lumber, or stone. One or two contributing factors could be reported per an event. Along with equipment failure, 9,898 other contributing factors were reported. The most common other contributing factor was system/process upset [3,927 (39.7%)]. A total of 428 of the events resulted in people being injured; the total number of people that were injured in these events was 1,950, of whom 22 died. Employees were the most common victims. Evacuations, affecting 51,550 people, were ordered in 591 (3.3%) equipment failure events in manufacturing industries.

A total of 22,194 chemicals were released. Over 25% of the chemicals were from the volatile organic compounds category. Over 78% of the chemicals were released through vapors.

Raising the awareness of the public health implications of hazardous substance releases due to equipment failure in the manufacturing industries could lead to education and the development of preventative measures.