Surveillance of Hazardous Substances Releases Due to System Interruptions, 2002

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The Hazardous Substances Emergency Events Surveillance (HSEES) system, maintained by the Agency for Toxic Substances and Disease Registry, actively collects information on acute and threatened hazardous substances releases. In 2002 there were 15 state health departments actively collecting data. The goal of HSEES is to reduce morbidity and mortality from acute hazardous substances releases. There were 9,015 events during 2002, a quarter of which were caused by an interruption to a normal chemical processing procedure (N=2,306, 25.6%). Interruptions resulted from runaway processes, problems in feedstock, electrical interruptions, system maintenance, system startup, system shutdown and other similar problems. Over half (56%) of system interruption events were primarily attributed to equipment failure. The majority of interruption events (N=2,085 90.4%) were reported by three states: Texas, Louisiana, and New Jersey. There appeared to be an association with seasonality in these events, with the most events happening in October (N=261), November (N=233), and December (N=219). Four types of industries were represented in 87.6% of the events (oil and gas extraction; resin, synthetic rubber and fibers and filaments manufacturing; industrial and miscellaneous chemicals manufacturing; and petroleum refining). These releases often have not been cited by environmental agencies because they are reported ahead of time, which is permitted in some states. However, because of their magnitude, these releases can potentially
contribute to environmental pollution. Because fewer of these events result in acutely injured persons when compared with other HSEES events (1.7% vs. 10.4%) or evacuations (1.3% vs. 8.1%), little attention has been paid them. However, reductions in system interruption events could improve environmental quality in Texas, Louisiana, and New Jersey. Therefore, more consideration for the circumstances surrounding these events is needed to help develop preventative and corrective measures. This session examines these system interruption events in detail.