

## **Fatalities in Poisoned Patients Managed by Medical Toxicologists**

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**Background:** Poisoning is a leading cause of injury-related death in the USA. Toxicology Investigators Consortium (Toxic) Case Registry, established by the American College of Medical Toxicology, prospectively captures patients who were directly cared for and managed at the bedside by medical toxicology services. We sought to describe exposure cases who presented to Emergency Departments (ED) across Toxic sites, which despite direct bedside care by medical toxicologists resulted in patient fatality.

**Methods:** We identified all cases in the Toxic Case Registry that resulted in fatality after hospital presentation over the 6-year study period. We collected data on patient demographics and clinical information including age group, sex, circumstances for exposure, route of exposure, substances involved, presenting signs and symptoms, and management prior to death.

**Results:** Of 46,232 recorded cases in the registry over the study period, 268 (0.6%) fatalities met the inclusion criteria and comprise the study cohort. There was no sex predominance (138 females; 51.5%) and 27 (10.1%) were pediatric fatalities. In 195 (72.7%) patients, exposure was intentional. In 175 (65.3%) patients, fatality was associated with exposure to pharmaceuticals. The leading substances resulting in death were non-opioid analgesics, followed by opioids (72% prescription opioids), cardiovascular, sedatives, antipsychotics, antidepressants, and sympathomimetics.

**Conclusions:** Most Toxic registry exposures resulting in death involve intentional exposures, with non-opioid and opioid analgesics being the most commonly lethal agents, and without sex predominance. One in 10 fatalities involved a child.