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104. The Toxicology Investigator's Consortium Registry: Descriptive Analysis of the First 5 Years 2010–2014

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Background: The American College of Medical Toxicology created the Toxicology Investigators Consortium (ToxC) as a means to provide a tool for clinical toxicology and surveillance. Established in 2010, the ToxC Registry includes data related to demographics, encounter type, exposure, and clinical factors from patients seen in clinical consultation by medical toxicologists.

Research Question: What is the current qualitative and quantitative character of ToxC Registry that may influence the ability to consistently report on events over time?

Methods: This descriptive analysis included all ToxC Registry cases reported over the period January 1, 2010 through December 31, 2014. Summary descriptive statistics calculated included relative frequencies, average annual percent change (AAPC), and chi-squared for trend for major categorical data fields.

Results: The ToxC Registry has grown since 2010 in both the number of cases (+116 % absolute, +20.2 % AAPC) and member sites (+79 % absolute, +10.7 % AAPC). However, continuity in participation has varied. For example, among the 52 individual sites contributing cases, only 4 dropped out within 2 years (7.8 % CI 3.1–18.5 %), while 50 % indicated an increase in cases for the most recent 2-year period (2013–2014). Of cases, 87.6 % reported a toxic exposure (87.6 %), with the majority a single agent poisoning (61.1 %). The most common agent classes were analgesics, sedative-hypnotics, opioids, and antidepressants across all years. Linear tests for trend based on % total agents indicated significant downward trends for sedative-hypnotics ($P < 0.001$ chi-squared) and antidepressants ($P < 0.001$ chi-squared). In contrast, among single-agent poisonings only, significant positive trends appeared for analgesics (+12.6 % absolute, $P < 0.001$ chi-squared), opioids (+28.1 % absolute, $P < 0.001$ chi-squared), and antidepressants (+9.7 % absolute, $P = 0.09$ chi-squared).

Discussion: ToxC continues to grow in the number of cases and participating sites. Many patterns in type of, and reason for a toxicological consultation, as well as general agent class appear similar across years. However, even in this short time period, this descriptive analysis still identified trends for the most common agent classes and illustrated the influence of event characteristics on temporal changes.

Conclusion: Consideration of the type of exposure (single or multiple agent) and characteristics of participating sites, including relative reporting completeness, need to be considered in future analyses.