

The Most Prevalent Drugs Found in Child Endangerment Cases in Alabama

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Background/Introduction:

Child endangerment is when a person engages in conduct that places a child in imminent danger of death, bodily injury, or physical or mental impairment. This is a Class A misdemeanor in Alabama. However, if a responsible person commits the crime of chemical endangerment of exposing a child to an environment in which he or she does any of the following, it is a felony:

- (1) Knowingly, recklessly, or intentionally causes or permits a child to be exposed to, to ingest or inhale, or to have contact with a controlled substance, chemical substance, or drug paraphernalia.
- (2) Violates subdivision (1) and a child suffers serious physical injury by exposure to, ingestion of, inhalation of, or contact with a controlled substance, chemical substance, or drug paraphernalia.
- (3) Violates subdivision (1) and the exposure, ingestion, inhalation, or contact results in the death of the child.

Objective: We determined the most prevalent drugs found in child endangerment cases over a 6.5 year period and highlighted two representative cases. In addition, we explored the demographics and constructed maps based on prevalence data.

Method: Data for this project was mined from the ADFS LIMS. From 2012 to mid-2018, there were 323 cases submitted as child endangerment cases. These cases included samples primarily from mothers and newborns that typically included blood, urine, cord blood and meconium. Toxicological examinations included analyses for ethanol and related volatiles by HS/GC-FID, immunoassay drug screening using a Radox Evidence Analyzer, and drug confirmation by liquid-liquid and solid-phase extractions followed by GC/MS and/or LC/MS/MS. When warranted, quantitative analyses were conducted. Prevalence data was used to construct geo-maps which is the visual representation of collected data overlaid on a map to show the results of said data.

Results: 204 of 323 (63%) of cases submitted were positive for drugs. Surprisingly, only four cases were positive for ethanol. 139 of 323 (49%) cases had multiple drugs detected. From 2014 to 2015 there was a 45% increase in case submissions and an additional 26% increase from 2016 to 2017. Geo-mapping indicated 3 of 67 counties submitted 63% of the positive cases and 65% of the total number of cases submitted. Methamphetamine and amphetamine were the most prevalent drugs found in 47% of total cases submitted. The median (range) for methamphetamine and amphetamine concentrations were 171 ng/mL (< 10 ng/mL to 1200 ng/mL) and 40 ng/mL (10 ng/mL to 210 ng/mL), respectively.

Conclusion/Discussion: Since the addition of the chemical endangerment clause in the Alabama child endangerment law, many counties in the state have greatly increased their efforts to combat their growing drug problems. From 2012 to mid-2018, three counties led the charge for using the chemical endangerment clause to prosecute drug users. The clause was originally intended to combat the drug problem by prosecuting illicit drug manufacturing (e.g. meth labs). Initiatives by these local district attorneys and drug courts have now shifted their efforts towards pregnant mothers and mothers of newborns. The statistics presented here show that these counties have a significant problem of mothers exposing their children *in utero* to illegal drugs. There is some debate regarding the effectiveness of prosecuting mothers that expose their unborn children to drugs as a deterrent to drug use. Also, of concern is how many individuals are being charged based solely on hospital testing, where a confirmation analysis may not be conducted. In all suspected cases law enforcement should be encouraged to submit samples to crime laboratories for confirmation testing and discouraged from relying solely on preliminary hospital screens. It is important for forensic toxicology laboratories to communicate with law enforcement to ensure that proper sample collection and testing occurs.

Keywords: Child endangerment, chemical endangerment, methamphetamine