

## Synthetic Drug Overdose *An Information Paper*

Individuals who take synthetic drugs including synthetic cathinones (“bath salts”) and synthetic marijuana (K2/Spice) all too frequently end up in the emergency department. Synthetic cathinones are herbal mixtures that act as amphetamine-like stimulants that can produce euphoria or paranoia, agitation, hallucinations, or even psychosis and violent behavior. Spice (synthetic cannabinoids) refers to a wide variety of herbs and chemical additives that produce a marijuana-like experience but may also result in even stronger effects.

The [2013 National Drug Threat Assessment Summary](#) notes that “the number and type of synthetic cannabinoids have increased exponentially since 2008 as evidenced by the number of reports submitted to the National Forensic Laboratory information system (NFLIS). ...there were 29,467 synthetic cannabinoid drug reports in 2012, an increase of 1,402 percent from 2009” when there were only 21.

Synthetic drug overdose is a complex problem. Federal, state and local health officials have started to provide drug abuse data surveillance to healthcare providers to help with care. The most commonly used databases are listed below and studies are currently being conducted on the effectiveness of these databases:

- 1) [DAWN—Drug Abuse Warning Network](#) is a public health surveillance system that monitors drug-related emergency department visits in order to report on the impact of drug abuse, misuse, and abuse across the nation. It is managed by SAMHSA (Substance Abuse and Mental Health Service Administration) which is an agency within the U.S. Department of Health.
- 2) [NPDS---National Poison Data System](#) tracks drug overdose outbreaks across the country and, in many situations, it can initially detect them by automatically applying analysis algorithms or by using a methodological manual search paradigm that analyzes overdose/exposure call volume and clinical effect trends. Through the database, AAPCC (American Association of Poison Control Centers) will issue alerts.
- 3) [NDEWS & CEWG---National Drug Early Warning System \(NDEWS\)](#) was developed by NIDA (National Institute of Drug Abuse) to monitor [emerging trends](#) that will help health experts respond quickly to potential outbreaks of drug misuse. The system will scan social media and web platforms to identify new trends as well as use conventional national and local level data resources. NDEWS replaces CEWG (Community Epidemiology Work Group), a network of researchers in major metropolitan areas and some states who reported data on emerging trends in drug use. The NIDA hopes to dispatch rapid response teams to hot spots as well as quickly disseminate information from these systems to the public.
- 4) [RADARS—Researched Abuse, Diversion Addiction Related Surveillance](#) collects identified instances/reports of prescription drug abuse, misuse and diversion for specific drug products occurring in a three-digit zip code throughout the United States. Rates of abuse in each three-digit zip code then are calculated based upon population and drug availability. The RADARS Scientific Advisory Board (SAB) provides strategic direction and scientific interpretation of the data.
- 5) [MMWR---Morbidity and Mortality Weekly Report](#) of the CDC (Centers for Disease Control and Prevention) issues early reports on epidemic drug overdoses. An example is their MMWR report on acetyl fentanyl deaths.

- 6) **State Prescription Monitoring Program**---The list for each state's contact can be found on the NASCSA (National Association State Controlled Substance Abuse) website at. Because of the wide variability in these prescription monitoring programs, there is a difference in effectiveness.
- 7) **EMS runs for suspected overdoses: Implications for surveillance**---A recent study by Dr. Amy Knowlton, et al published in *Prehospital Emergency Care* journal (17(3):317-19) looked at Baltimore City EMS runs and found temporal patterns for overdose.

With the increasing numbers of drug overdoses being seen, states have enacted "Good Samaritan" laws to provide some level of legal protection for individuals who seek help for themselves or others in overdose situations. According to a [report](#) by the National Conference of State Legislatures, as of February 2015 twenty-two states and the District of Columbia have enacted a 911 immunity law. Generally these laws afford protection for low-level offenses.

A study in New York City found bystander fear of police response was the most cited reason for not calling or delayed calling for overdose help in 52.2% of the cases and bystander first aid measures were only attempted in 11.9% of the cases [Circumstances of witnessed drug overdose in New York City by Tracey in *Drug and Alcohol Dependence*. (79 (2) 181-90)]. A survey found that existence of these laws would propel 88% of bystanders to call for help in overdose emergencies (Washington's 911 Good Samaritan Drug Overdose Law: Initial Evaluation Results. ADAI Info Brief newsletter by U. of Washington). The actual effectiveness of these laws in reducing morbidity and mortality is currently being studied. The status on Good Samaritan overdose law in the 50 states is in the report, [Good Samaritan Overdose Prevention Laws](#).

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