Psychosis can be associated with acute recreational drug and novel psychoactive substance (NPS) toxicity. However, there is limited data available on how common this is and which drugs are most frequently implicated. We describe a European case series of psychosis associated with acute recreational drug toxicity, and estimate the frequency of psychosis for different recreational drugs. The European Drug Emergencies Network (Euro-DEN) collects data on presentations to Emergency Departments (EDs) with acute recreational drug and NPS toxicity at 16 centres in ten countries. Euro-DEN data from October 2013 through September 2014 was retrospectively searched, and cases with psychosis were included. The proportion of cases with psychosis per drug was calculated in the searched Euro-DEN dataset. Psychosis was present in 348 (6.3 %) of 5529 cases. The median (interquartile range) age was 29 (24-38) years, 276 (79.3 %)
were male and 114 (32.8 %) were admitted to psychiatric ward. The drugs most commonly reported were cannabis in 90 (25.9 %) cases, amphetamine in 87 (25.0 %) and cocaine in 56 (16.1 %). More than one drug was taken in 189 (54.3 %) cases. Psychosis was frequent in those ED presentations involving tryptamines (4/7; 57.1 %), methylenedioxypyrovalerone (MDPV) (6/22; 27.3 %), methylphenidate (6/26; 23.1 %), lysergic acid diethylamide (LSD) (18/86; 20.9 %), psilocybe mushrooms (3/16; 18.8 %), synthetic cannabinoid receptor agonists (4/26; 15.4 %) and amphetamine (87/593; 14.7 %), but less common in those involving mephedrone (14/245; 5.7 %), methylenedioxyamphetamine (MDMA) (20/461; 4.3 %) and methedrone (3/92; 3.3 %). Amphetamine was the most frequent drug associated with psychosis when only one agent was reported, with psychosis occurring in 32.4 % of these presentations. The frequency of psychosis in acute recreational drug toxicity varies considerably between drugs, but is a major problem in amphetamine poisoning. In rapidly changing drug markets and patterns of use, the Euro-DEN sentinel network contributes to measuring the scale of drug-related harms in Europe beyond other more established indicators.