An overview of forensic drug testing methods and their suitability for harm reduction point-of-care services

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Abstract

Given the current opioid crisis around the world, harm reduction agencies are seeking to help people who use drugs to do so more safely. Many harm reduction agencies are exploring techniques to test illicit drugs to identify and, where possible, quantify their constituents allowing their users to make informed decisions. While these technologies have been used for years in Europe (Nightlife Empowerment & Well-being Implementation Project, Drug Checking Service: Good Practice Standards; Trans European Drugs Information (TEDI) Workgroup, Factsheet on Drug Checking in Europe, 2011; European Monitoring Centre for Drugs and Drug Addiction, An Inventory of On-site Pill-Testing Interventions in the EU: Fact Files, 2001), they are only now starting to be utilized in this context in North America. The goal of this paper is to describe the most common methods for testing illicit substances and then, based on this broad, encompassing review, recommend the most appropriate methods for testing at point of care.Based on our review, the best methods for pointof-care drug testing are handheld infrared spectroscopy, Raman spectroscopy, and ion mobility spectrometry; mass spectrometry is the current gold standard in forensic drug analysis. It would be prudent for agencies or clinics that can obtain the funding to contact the companies who produce these devices to discuss possible usage in a harm reduction setting. Lower tech options, such as spot/color tests and immunoassays, are limited in their use but affordable and easy to use.

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