

Highlights of Analytical Chemistry in Switzerland

Division of Analytical Chemistry

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HPLC on the Dance Floor

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In the context of drug prevention projects, the mobile laboratory unit of the Cantonal Pharmacist Berne is analyzing so-called 'party drugs' at techno events. This project started in 1998 and is collaborating with 'Streetwork Zurich' and the 'Contact Net' foundation in Bern. Since then, more than 1700 samples have been investigated at more than 100 events.

The mobile laboratory – a proprietary development – is based on commercially available components. It consists of four custom-made, steel-framed racks on wheels: one is used for the balance and the documentation work, one is for sample preparation, and two are equipped with WLAN-controlled HPLC-DAD instruments. This laboratory is run on-site by two experienced technicians. Every sample is documented prior to analysis, then a simple extraction is done which yields the sample solution for qualitative and quantitative analysis. It is possible to handle about five to six samples per hour. Routinely, more than 50 compounds can be reliably characterized. In the case of unknown ingredients, dangerous mixtures or high dosages, warnings are spread during the event, if necessary also for a broader public (see www.saferparty.ch and www.raveitsafe.ch). The laboratory is the focal point of the advisory service and facilitates contact with the target group. During the laboratory analysis, a social worker conducts a conversation with a structured interview. An anonymous questionnaire is a mandatory part of the short consultation.

Besides the personal drug counseling, the twelve campaigns per year allow the illegal market to be tracked. The emergence of new compounds or changing trends of consum-



The mobile HPLC laboratory departs for the dance floor

ers' behavior can be observed and possible health risks are identified.

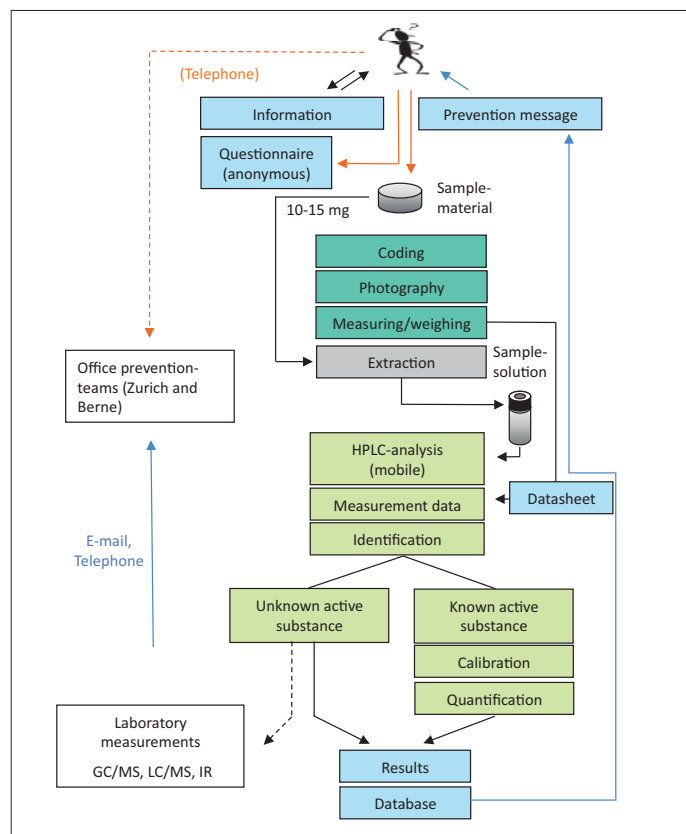
Some examples include:

– MDMA (Ecstasy) is still the preferred party drug. Since 2005, the increased emergence of fake ecstasy pills with meta-chlorophenylpiperazine as the active ingredient has unsettled consumers.

– Since 2003, a wave-like increase of cocaine samples can be observed. Today, cocaine is the third most frequently analyzed compound, after MDMA and amphetamine. In addition, a decrease of the cocaine content from more than 50% to less than 30% mass fraction was detected over the years. A noticeable observation is the fact that pharmacologically active adulterants are now found more frequently, such as the illicit pain killer phenacetin or the anthelmintic levamisol which are dangerous to health.

– New compounds, so-called 'designer drugs', are appearing with increasing incidence at parties. This new trend emerged about two years ago. Examples are compounds such as mephedrone, methylone and butylone which could be identified recently. These drugs are derivatives of known psycho-active compounds but they are not (yet) listed as scheduled drugs with regard to controlled substances legislation.

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Flow diagram: note the collaboration between the laboratory and the prevention teams

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