



“A more accurate understanding of drug use”: A critical analysis of wastewater analysis technology for drug policy

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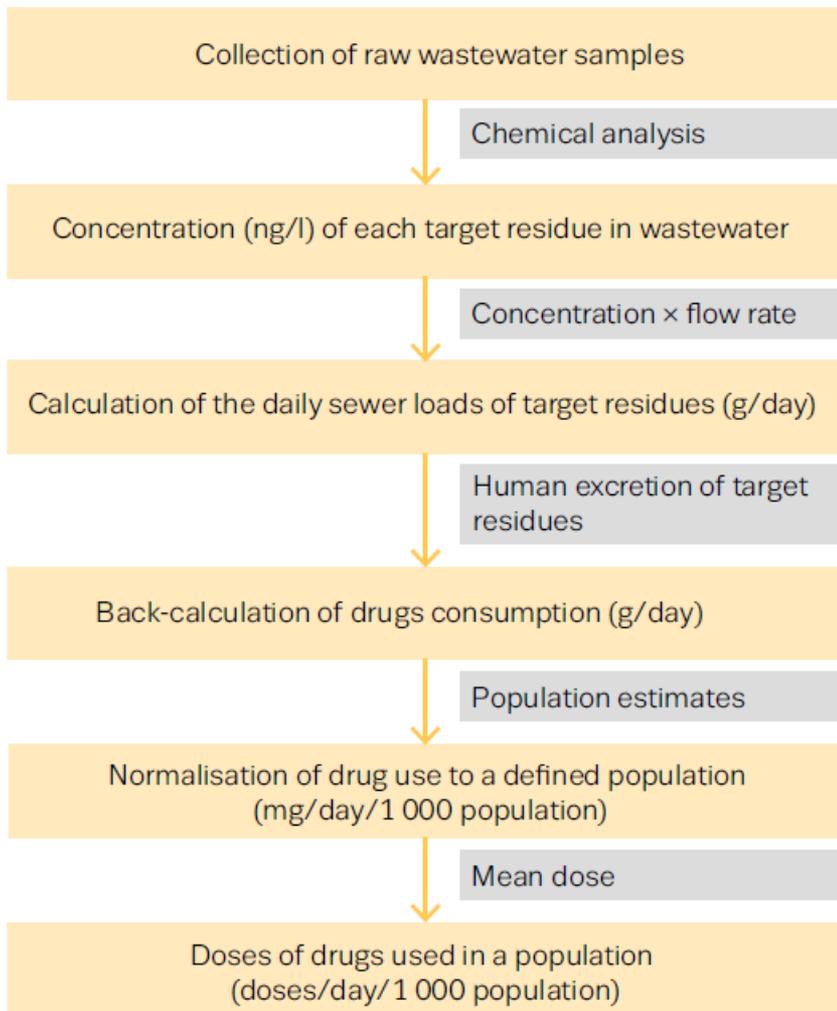
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Wastewater analysis: a “promising tool”?



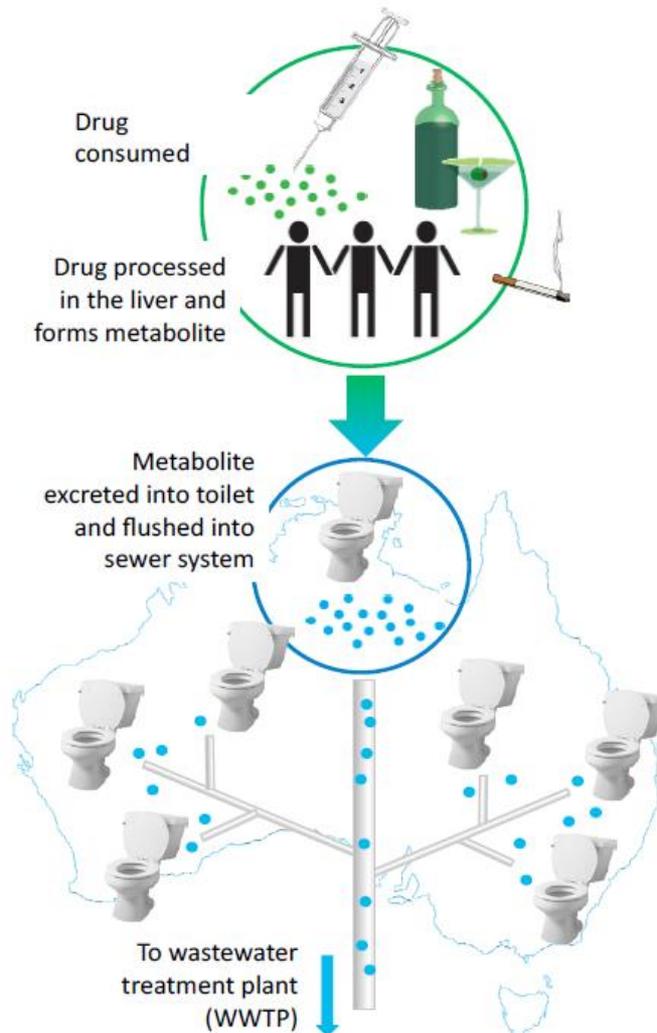
FIGURE 1.1

The main consecutive steps of the wastewater analysis approach and the data required for each step



NB: Modified from Castiglioni et al., 2014.

Figure 1: Schematic of the transport of drugs from consumed chemical to metabolised waste product being delivered to the sewer system.



Two ways to think

“There are two great views of method in science and social science. On the one hand it is usual to say that methods are techniques for *describing* reality. Alternatively, it is possible to say that they are practices that do not simply describe realities but also tend to *enact* these into being...

... The second approach – **the idea that methods are practices that tend to enact realities as well as describing them – treats knowledge practices as more or less *performance*.**”

(John Law, 2009)



Evidence-making interventions in health: A conceptual framing

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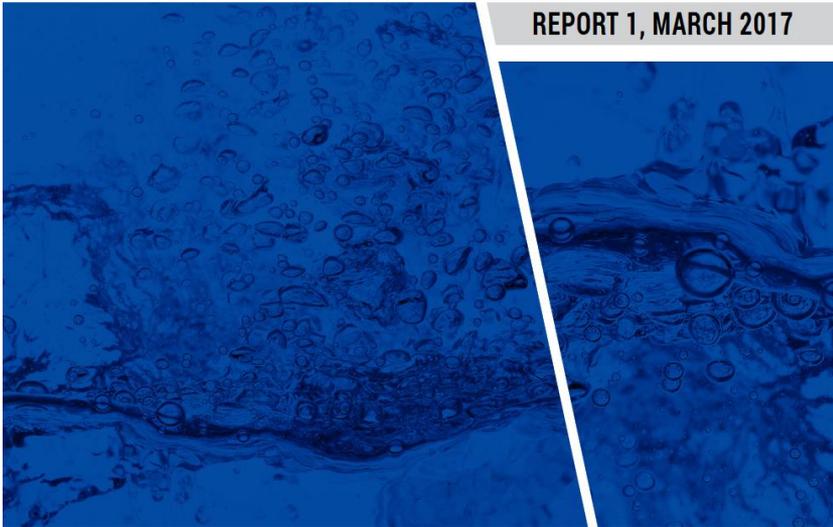
Implementation science

ABSTRACT

We outline a framework for conceptualising interventions in health as ‘evidence-making interventions’. An evidence-making intervention (EMI) approach is distinct from a mainstream evidence-based intervention (EBI) approach in that it attends to health, evidence and intervention as matters of local knowledge-making practice. An EMI approach emphasises relational materiality and performativity, engaging with interventions, and their knowing, as matters-of-practice. Rather than concentrating on how ‘evidenced interventions’ are implemented ‘into’ given ‘contexts’ - as if evidence, intervention and context were stable and separate - an EMI approach focuses on the processes and practices through which ‘evidence’, ‘intervention’ and ‘context’ come to be. There are two strands to our analysis: First, we identify concepts to think-with in an EMI approach; and second, we illustrate their implications through case examples. We first reflect on developments in ‘implementation science’ to distinguish how an EMI approach thinks differently. We note a ‘within-limits contingency’ of implementation science in contrast to the ‘open contingency’ of an EMI approach. This helps notice the performativity of science and intervention as evidencing-making practices. We next conceptualise an EMI approach in relation to: ‘objects and practices’; ‘effects and events’; and ‘concerns and care’. We position an EMI approach in relation to theories of ‘relational materialism’, arguing that this affords a more critical, as well as more careful, way of knowing and doing health intervention.

NATIONAL WASTEWATER DRUG MONITORING PROGRAM

REPORT 1, MARCH 2017



NATIONAL WASTEWATER DRUG MONITORING PROGRAM

REPORT 2, JULY 2017



‘Accurate’ data

“The National Ice Taskforce found self-report user surveys, seizure and arrest data and medical statistics provide only a limited picture of drug consumption. Consequently, the Taskforce recommended that a national wastewater capability be established to provide a *more accurate and comprehensive understanding* of drug use in Australia”

(Australian Criminal Intelligence Commission, 2017a, p.1, emphasis added)

Caveats!

Wastewater analysis is a tool for determining population scale of use of a particular substance, i.e. the total amount of a drug used by a whole community or population, not by individuals or individual households. This is useful for showing differences between populations (Lai et al., 2016), or, when applied over time, to show temporal trends (Tscharke, 2016). Finer demographic information such as gender, age or ethnicity cannot be ascertained by wastewater analysis, nor the administration route used (intranasal, oral, intravenous, etc.). Drug concentration is measured overall, and therefore cannot be used to distinguish occasional use by many people from heavy use by a few individuals. In the case of drugs such as methylamphetamine, different forms of the drug ('ice', powder) will yield the same result when measured in wastewater.

(Australian Criminal Intelligence Commission, 2017)

Made to be measurable; made to be knowable

SNAPSHOT

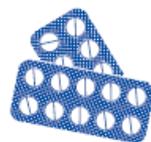


Methylamphetamine is the highest consumed illicit drug tested across all regions in Australia.



This report covers approximately 58 per cent of Australia's population—about 14 million people.

Compared with methylamphetamine, consumption of other stimulants was generally much lower.



Oxycodone and fentanyl consumption (licit and illicit) across all jurisdictions is at concerning levels.

Consumption levels for tested new psychoactive substances confirm this is a niche market.



Alcohol and tobacco are the highest consumed substances in all states and territories.



consumption in Australia was noticeably lower than methamphetamine levels.

Levels of MDMA (also known as ecstasy), while high in certain capital city sites and some regional areas of Queensland and Tasmania, are understood to have generally been lower than those detected for methamphetamine across much of the country.

The NWADMP was announced after a report by the Australian Crime Intelligence commission had shown rises in the number and size of drug seizures and local monitoring trials also suggested drug usage was on the increase.

Traditional methods of judging drug use, such as simply asking users, have been blamed for underestimating the scale of Australia's drug problem.

The principal of testing wastewater is based on the idea that while people may be able to conceal their habits even from close friends and family, fluids released into sewage systems nonetheless provide telltale signs of community drug-use patterns as a whole.

The study will monitor wastewater from 50 sites across Australia for three years at an expected total cost of expected to cost \$3.6 million. Water treatment plant staff are understood to have collected samples over periods of seven days.

Conclusion

Why is it worthwhile to think in this way?

“One answer is that it opens a political space. It allows us to ask about the circumstances and how the real might be better enacted. It becomes possible to reflect on a politics making a better version of the real – that is on an ‘ontological politics’ or an ‘ontopolitics’.”

(Law, 2009)

“How do we want to interfere (because interfere we will, one way or another)?”

(Law & Urry, 2004)

Thank you

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