

# Impact of increased drug law enforcement on public health: first results from Czech Republic

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## 1. Introduction and background

According to a number of studies, increased drug law enforcement (DLE) has different consequences in many areas [Burriss et al. (2004); Dixon & Maher (2005); Fitzgerald (2005); Maher & Dixon (1999); Kerr et al. (2005)]. The systematic reviews of Kerr et al. (2005) and DeBeck et al. (2017) shows that one of these areas is public health and that impacts of DLE are primarily evaluated as negative (e.g. incidence of infectious diseases and overdoses).

This research is based on the significant increase of drug law enforcement activity in Czechia between 2010 and 2014 (see all figures).

## 2. Methods and materials

The increase in DLE allows the investigation of the question if increase in DLE was associated with subsequent increase in selected public health indicators. ARIMA models and transfer function was used to analyze the relationship between variables. The data were analyzed for period 2004-2016, aggregated on the level of months.

The indicators were selected in relation to methamphetamine which is most prevalent among PDU/IDU. The DLE indicator is the number of drug offenders related to methamphetamine (all figures). The public health indicators are: a) number of hospitalizations for methamphetamine and other stimulants intoxication in acute care hospitals (ICD: T43.6), see figure 1, b) methamphetamine drug-related deaths in general registry, see figure 2, c) the incidence of hepatitis C among injecting drug users, see figure 3.

## 3. Results

The changes in selected public health indicators time series were significantly related to the changes in the law enforcement indicator time series. There was delay in this effect and, although, the coefficients have low values, it shows that strong increase in DLE results in noticeable increase in public health indicators.

## 4. Conclusion and discussion

Increase in law enforcement activity had negative consequences in public health. This study also show utility of administrative indicators. Limitations are based in the limitations of the indicators and ecological nature of this study.

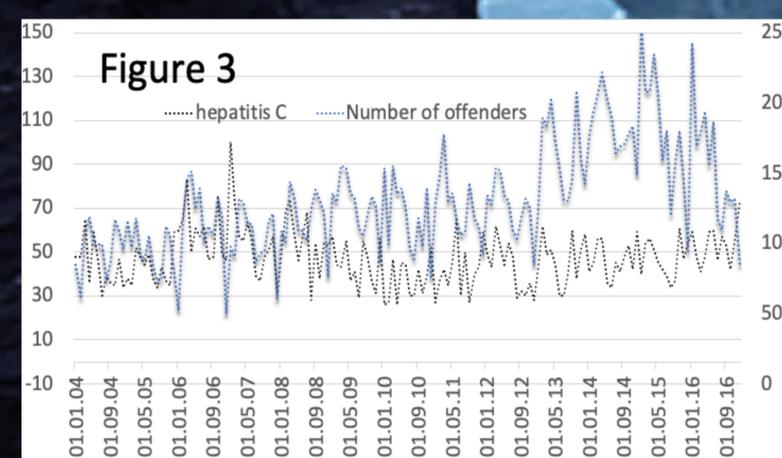
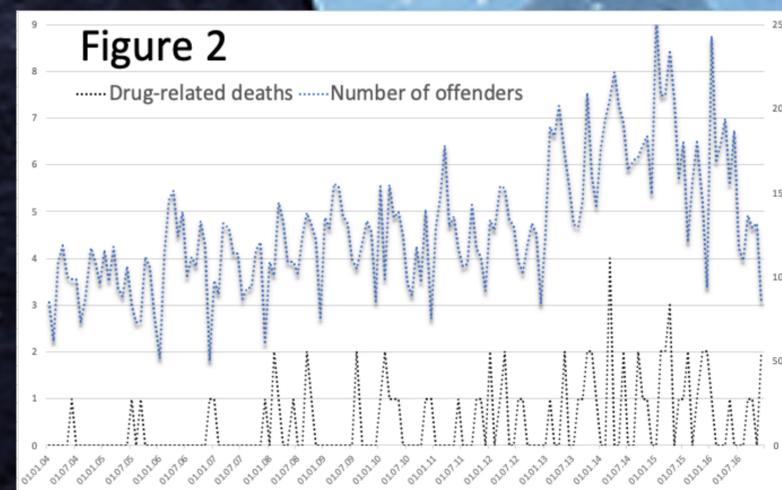
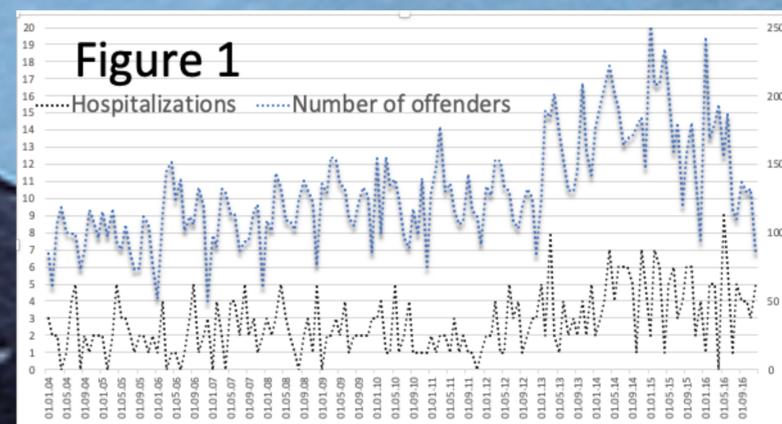


Table 1: ARIMA model and transfer function

	Arima model	Delay of the effect	Coefficient of the effect	Standard error	Sig.
Hospitalisations	(3,0,3) (0,0,0)	4 months	0,02	0,002	< 0.01
Drug-related deaths	(0,0,0) (1,0,0)	11 months	0,008	0,001	< 0.01
Hepatitis C	(2,0,0) (0,0,0)	12 months	0,094	0,026	< 0.01

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