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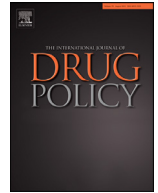
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Response

COVID-19 economic impact payments and opioid overdose deaths: A response

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The letter by Freisthler et al provides an opportunity for much needed discussion on the potential temporal link between stimulus checks and the spike in opioid overdose deaths seen during weeks 17–32 of 2020 in Ohio (Sprague et al., 2022). Freisthler et al identify three areas of concerns and provide their opinion of potential remedies. First, they referred to the overreliance on causal language and interpretations. Freisthler et point to specific examples of where they interpreted our statements as meaning “causal”. The timing of the COVID-19 economic impact payments and the increase in opioid overdose deaths (Vieson et al., 2021) were specifically investigated. In order to complete our objective, we used data from the Ohio Department of Health (ODH) and the mortality dataset. As we noted in our report, and Freisthler et al reiterate, many additional factors may have contributed to the increase in opioid overdose deaths; such as social isolation, loss of income/housing, reduced availability of harm reduction strategies and decreased access to medication treatment for opioid use disorder (MOUD; Holmes et al., 2020; Henderson et al., 2021). We never indicated this was the sole factor. We, along with Freisthler et al, added that the role of clandestinely produced forms of fentanyl-related compounds may have also contributed (Grebely et al., 2020).

Freisthler et al further suggest that “With regards to the Granger causality test, we recommend that the authors should be using two different time series to test whether one time series can be used to predict another time series.” In fact, we did indeed conduct this analysis, as suggested, using two time series data on weeks without the identified change point and with the identified change point. A significant test in our study would indicate that the identified change point is predictive of the opioid overdose deaths trend observed after the identified change point. We simply pointed out in our paper that there was a temporal increase in opioid overdose deaths after the change point. One of the limitations that we identified in our own study was “lack of data on the income and other social economic characteristics.” In their letter, Freisthler et al further reiterate the same limitations that we reported in the manuscript.

Freisthler et al further suggest that we describe, the “check effect” as a “phenomenon in which low-income individuals use government assistance to pay for drugs.” We recognize that language could be stig-

matizing when taken to implicate certain conclusions that were never originally intended, as we did not make that statement. In fact, we emphasized as Shaner et al. (1995) described that the check effect was first reported as peak in cocaine use, psychiatric symptoms and hospital admissions shortly following disability payments. Numerous studies since this original report by Shaner et al. (1995) have found similar findings (Dobkin & Puller, 2007; Goedel et al., 2019; Otterstatter et al., 2016; Phillips et al., 1999; Krebs et al., 2016; Richardson et al., 2021; Riddell & Riddell, 2006; Zlotorzynska et al., 2014). More recently, Beaulac et al. (2022) further found an increase in illicit forms of fentanyl and benzodiazepines in the opioid drug supply in the income assistance payment weeks. Rosen (2011) provides a thorough review of the data supporting and not supporting the concept of a “check effect.” Furthermore, Freisthler et al third concern focusing on the lay press report is beyond the control of the authors. Research can have impacts in the world and lay press releases often lack the nuanced discussion provided in the original research article.

Finally, the facts are that opioid overdose deaths are at historically high levels. In our paper, we state that the intersection of the COVID-19 pandemic and the opioid epidemic has created a “perfect storm” of intersecting factors that have potentiated the opioid epidemic. Finding a solution to the problem is needed. Freisthler et al letter only reinforces our contention and suggestion for more research in this area, which we know to be true.

Ethics approval

The authors declare that the work reported herein did not require ethics approval because it did not involve animal or human participation.

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Declarations of Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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