

and p values. Using bootstrap and permutation tests that are appropriate for small samples, we find that none of the multivariate incidence risk ratios are statistically significant. The magnitude and pattern of incidence risk ratios in the Article are substantially different than noted with estimation methods appropriate for models with large numbers of predictors relative to the sample (eg, lasso). Finally, the Article contains factual errors, including misstating the extent of overdispersion and inconsistent claims about the laws of several states.

None of the paper's conclusions are supported by appropriate statistical methods. In its present form, the paper offers support for claims about gun policy that, if followed, could be harmful. For instance, the claim that laws requiring gun locks dramatically increases firearm homicides could lead to policies harmful to public health. The Article might also harm the scientific process; its extreme effects and deemed highly significant results could dominate meta-analyses for decades.

We declare no competing interests.

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- 1 Kalesan B, Mobily ME, Keiser O, Fagan JA, Galea S. Firearm legislation and firearm mortality in the USA: a cross-sectional, state-level study. *Lancet* 2016; **387**: 1847–55.

### Authors' reply

We thank all authors for their interest in our paper;<sup>1</sup> four main critiques are raised. First, Schell and Morral suggest that bootstrapping to recalculate standard error and confidence intervals would be appropriate in this context. We disagree. Bootstrapping is more appropriate under the assumption that observations are from an independent and identically distributed proportion. We are studying a highly interdependent set of populations, and fewer assumptions imposed on the data seem far more appropriate. To

the corollary point about small sample size, we apply multiple sensitivity tests to explore these data, with all results shown in the appendix. For example, we estimated the effects of firearm law changes over a 3-year period with the change in firearm death rates from 2008 to 2010 as the outcome and reported results similar to the main results.

Second, Schell and Morral use their alternate specification to conclude that none of the laws are effective and that our findings might not conform to common sense expectation. That is a skewed reading of the evidence, and a singular view of common sense. Schell and Morral's conclusion roundly contradicts a large body of empirical evidence from both national<sup>2,3</sup> and international studies.<sup>4,5</sup> Their view also contradicts a meta-analysis<sup>6</sup> showing that in fact some laws are effective. We also show that some laws have counterintuitive effects: our results align with a recent study showing that so-called stand your ground laws are associated with increased accidental firearm injury.<sup>2</sup> This observation confirms our basic premise: we should not assume what works and what does not, but instead use the best available data to empirically interrogate these questions.

Third, Alcorn and Burris suggest that our assessment of each law was too simplistic and that laws might not be analysable empirically. Their claim contradicts multiple reviews of gun law effects.<sup>3,7</sup> We assessed laws independently across states and provided details of each law in the appendix. We suggest that a cautious analytical approach, such as the approach that we adopted in this paper, is a more rational and productive approach than nihilism in the face of complexity.

Fourth, we agree completely with the explicit claim of Alcorn and Burris and a similar implicit claim by Schell and Morral, that longitudinal data are better suited to such research. We are explicit that our study is cross-sectional, and

acknowledge this limitation. We also use the term cross-sectional in our title. Of course, as laws change over time, the challenges of non-stationarity in the predictors will further complicate the identification of the effects of firearm laws. We look forward to this challenge, and to the time when new longitudinal data can support research to identify tests of which laws do, or do not, reduce the burden of firearm injury and death in the USA.

We declare no competing interests.

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## STAMPEDE trial and patients with non-metastatic prostate cancer

The study by Nicholas James and colleagues (March 19, p 1163)<sup>1</sup> shows that the addition of docetaxel to androgen deprivation therapy improved survival in patients with hormone-sensitive metastatic, high-risk, node-positive, or recurrent