Is Public Law 280 Exacerbating the Number of Drug Related Deaths on Native American Reservations?

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1 Introduction

In 1953 Congress passed Public Law 280, and began taking away the ability of American Indians and Alaskan Natives (AIAN) to enforce laws with criminal penalties on their lands. Around 46 years later, in 1999, was the start of the Opiods epidemic. Over the following twenty years as cities, states, and tribal governments began to grapple with the impact of the epidemic, how to control its spread, and manage its impact, several Tribes cited the over 50-year-old law as an impediment to their ability to:

1) Respond to reports of drug-dealing.

2) Apply for federal funds to create harm reduction programs.

We are interested in learning if reservations that lack criminal jurisdiction, or the legal authority to arrest and prosecute criminal violations experienced a higher rate of drug-related deaths than other reservations. We begin by reviewing the available data sources and our chosen analysis level. Next, we present simple, non-adjusted comparisons between regions where Tribes have criminal jurisdiction and lack criminal jurisdiction. Finally, we close by controlling for other factors that predict higher severity of the opiods crisis and present revised estimates from two regression models.

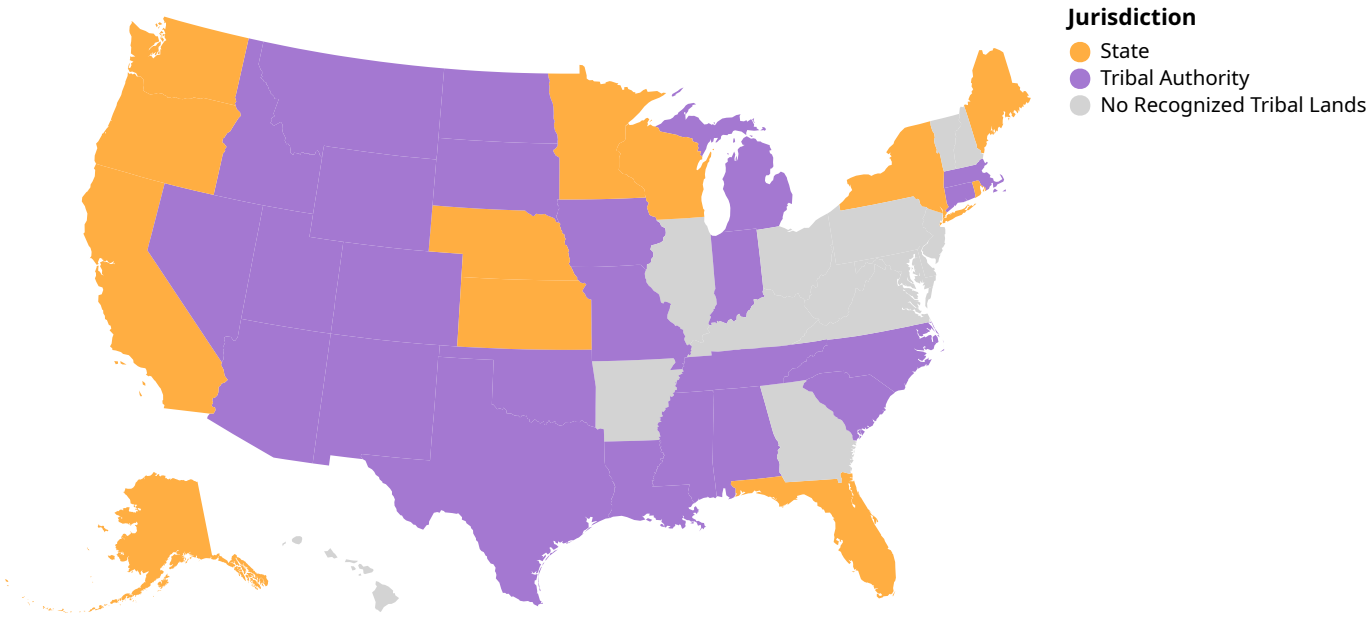
2 Overview of Data Sources and Analysis Level

Our data source is the publicly available 1998-2020 Multiple Mortality File provided by the National Center for Health Statistics (NCHS). This file aggregates the number of Drug-Related Deaths by different racial categories and is available at the state and county level. A drug-related death is any death that was influenced by the presence of narcotics.

Our ideal would be to aggregate these files at the reservation level, but that level of aggregation is not publicly available. Instead, we are make inferences about what is occurring on the reservations within states and counties according to the number of American Indian and Alaskan Native (AIAN) drug-related deaths. Unless otherwise stated we normalize all deaths by the AIAN population in the given state or county and present a drug-related death rate per 100,000 persons.

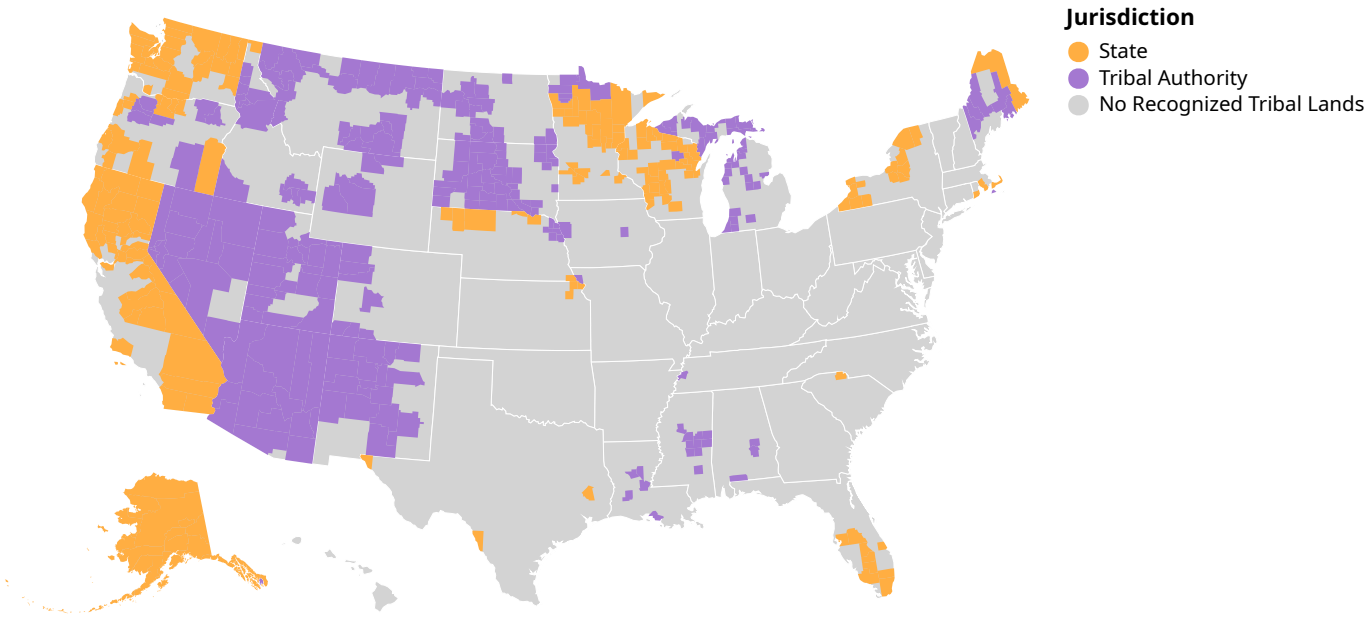
In total 11 states have used the authority granted under Public Law 280 to take criminal jurisdiction away from Native American reservations. In these states, it is the state government, often in the form of a county sheriff, who has the legal jurisdiction to enforce laws and prosecute violations. Map 1 shows the states with criminal authority on tribal lands and those where Tribal Authorities still have criminal jurisdiction. A handful of states have no federally recognized tribes or reservations and are not pertinent to our analysis.

State Level: Who Has Criminal Jurisdiction on Native American Reservations?



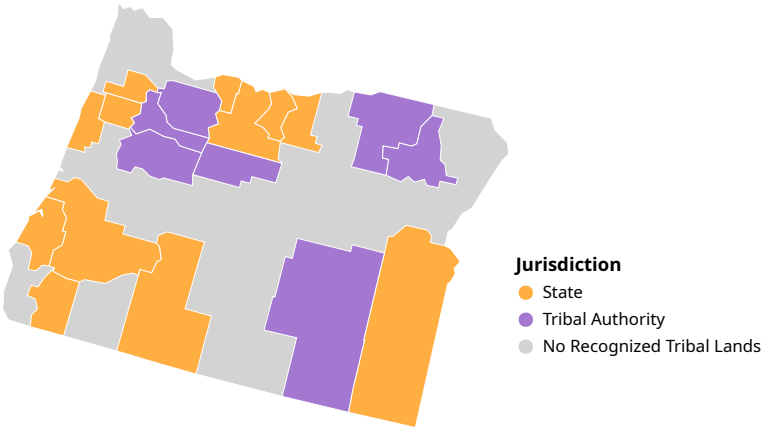
However, in practice criminal jurisdiction varies reservation to reservation. That is because many states that restrict criminal jurisdiction made exceptions for certain tribes. The county-level breakdown in Map 2 better captures how criminal jurisdiction is distributed. It also illuminates that a large number of states in the Midwest have 1-3 reservations and the remaining counties in those states can be dropped from our analysis.

County Level: Who Has Criminal Jurisdiction on Native American Reservations?



An added benefit of conducting our analysis at the county level is that we get to take advantage of variation within states. Map 3 uses Oregon as an example of a state that has a large number of state-level exemptions for which Tribes could have criminal jurisdiction.

Oregon: In Some Counties Tribal Authorities Have Criminal Jurisdiction



Because the county-level data better approximates what we want to observe, it will be our preferred level of analysis and will be the only data used to make specific estimates of the difference in death rates between our two groups. However, the state-level data has been used for a few plots to illustrate meaningful trends. Since the data is aggregated at a higher level, it tends to behave more normally and is useful for illustration.

3 First Look: Comparing Drug-Related Death Rates

Figure 1 below shows a strict comparison of the AIAN drug-related death rate in counties where the State has criminal jurisdiction with counties where the Tribal Authority has criminal jurisdiction. These death rates are the total number of AIAN drug-related deaths for each group divided by census estimates for the total AIAN population in each group of counties. 95% Confidence intervals for each estimate have been provided. In our data counties where the State has criminal jurisdiction have 17.2 more AIAN drug-related deaths relative to counties where the reservations have criminal jurisdiction.

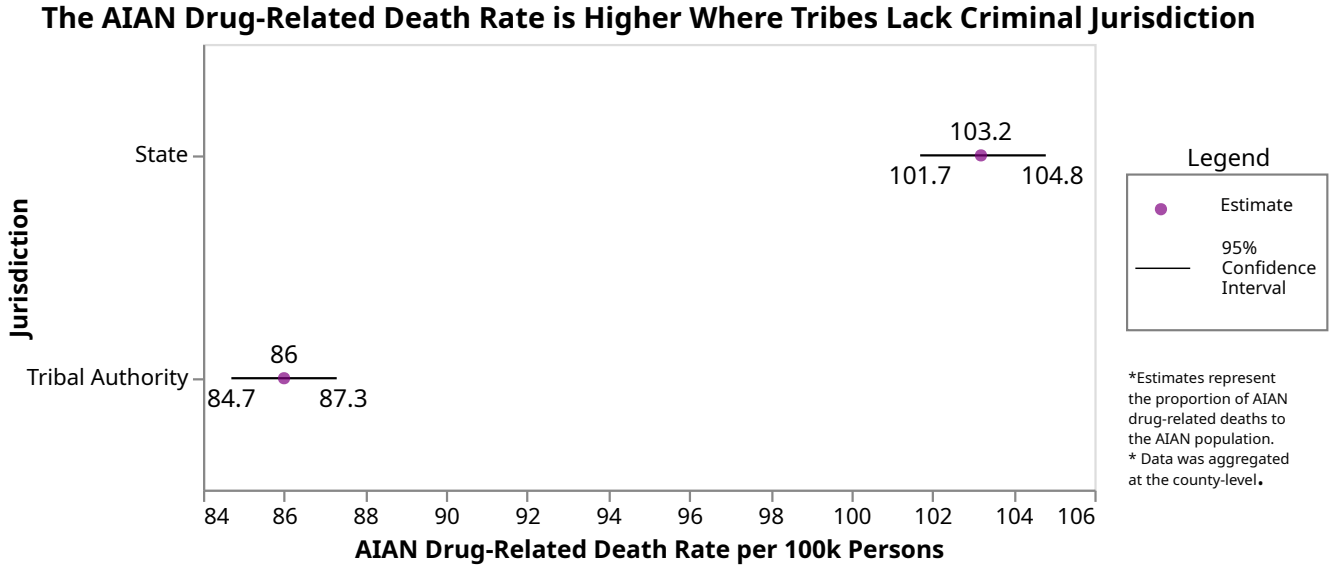


Figure 1: Proportion of AIAN Drug-Related Deaths Where State's Have Criminal Jurisdiction and Where Tribes Have Criminal Jurisdiction

While there is a strictly higher AIAN drug-related death rate where Tribes lack criminal jurisdiction, the difference is not uniform. Figure 2 below zooms out to the state-level and plots the density distribution of drug-related death-rates for states where Tribes have criminal jurisdiction and where Tribes lack

criminal jurisdiction. In the plot we can see that in both categories, the most common AIAN drug-related death rate is fairly low (0-50 deaths per 100,000 persons). A relatively higher proportion of states where the Tribal authority has criminal jurisdiction are in the lowest death rate bracket. By comparison, a higher proportion of state's where Tribes lack criminal jurisdiction have death rates ranging from 100-300 deaths per 100,000 persons.

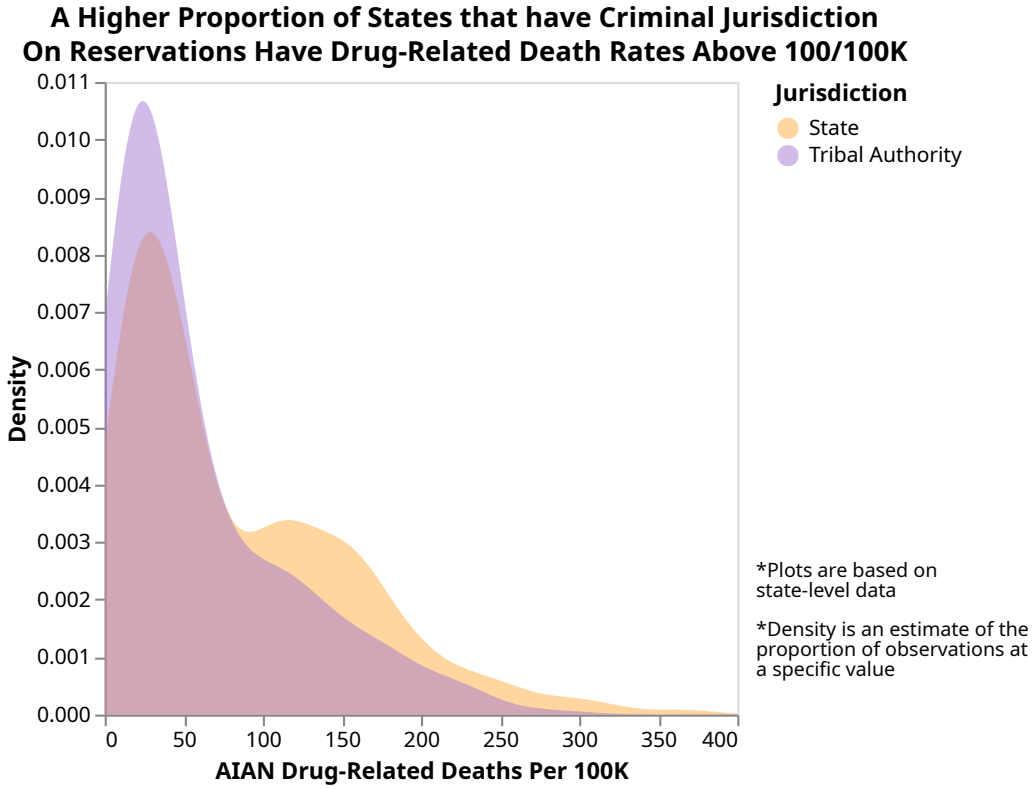


Figure 2: Overlapped Density Plots of States Where Tribes Have Criminal Jurisdiction and States Where Tribes Lack Criminal Jurisdiction

4 Final Estimate: Control Variables and Regression Analysis

We can improve our estimate of the difference in AIAN drug-related death rates by accounting for other sources of variation in drug-related deaths. The first relevant variable is time. Figure 3 demonstrates that the drug related death rate has gone up dramatically as the opiods epidemic has progressed. However, in all but one year the death rate was higher where Tribes lacked criminal jurisdiction.

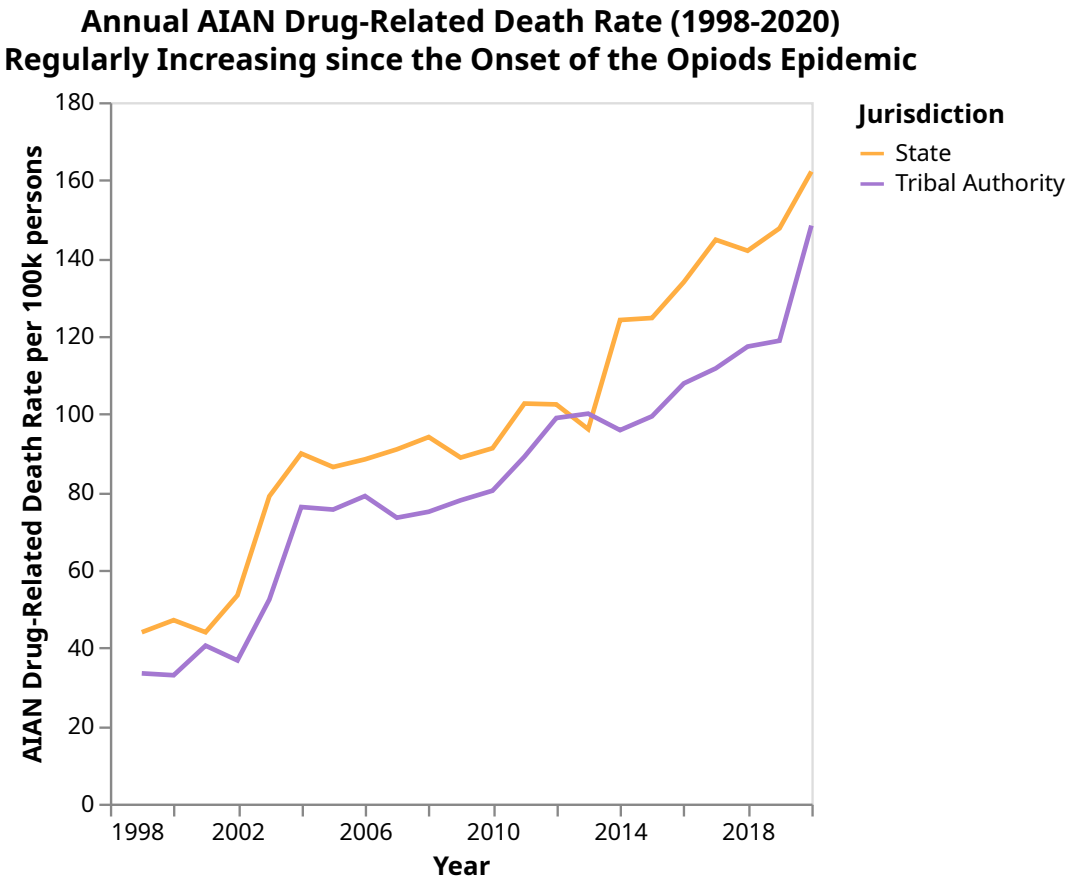


Figure 3: AIAN Drug-Related Death Rates Over Time

The opiods epidemic also varried state-to-state. The implementation of state-level laws (such as policies strictly controlling the prescription of painkillers) slowed the spread of the epidemic in certain states. Figure 4 below illustrates the variation in when state's began experiencing a rise in AIAN drug-related deaths.

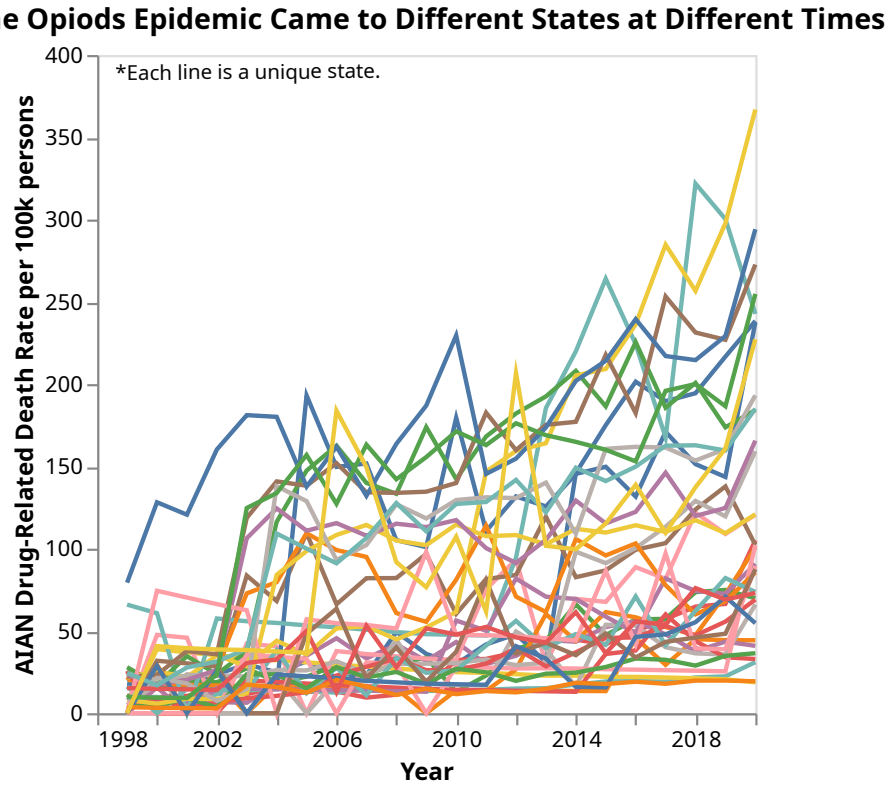


Figure 4:

Finally, we can account for any unknown variation that might have effected the AIAN drug-related death rate by controlling for the non-AIAN drug-related death rate. Figure 5 below plots the AIAN death-rate and non-AIAN death rates against each other and fits a regression line for each group to estimate how they correlate. At the state-level, controlling for the non-AIAN drug-related death rate we still that the AIAN drug related death rate is higher where Tribes lack Criminal jurisdiction.

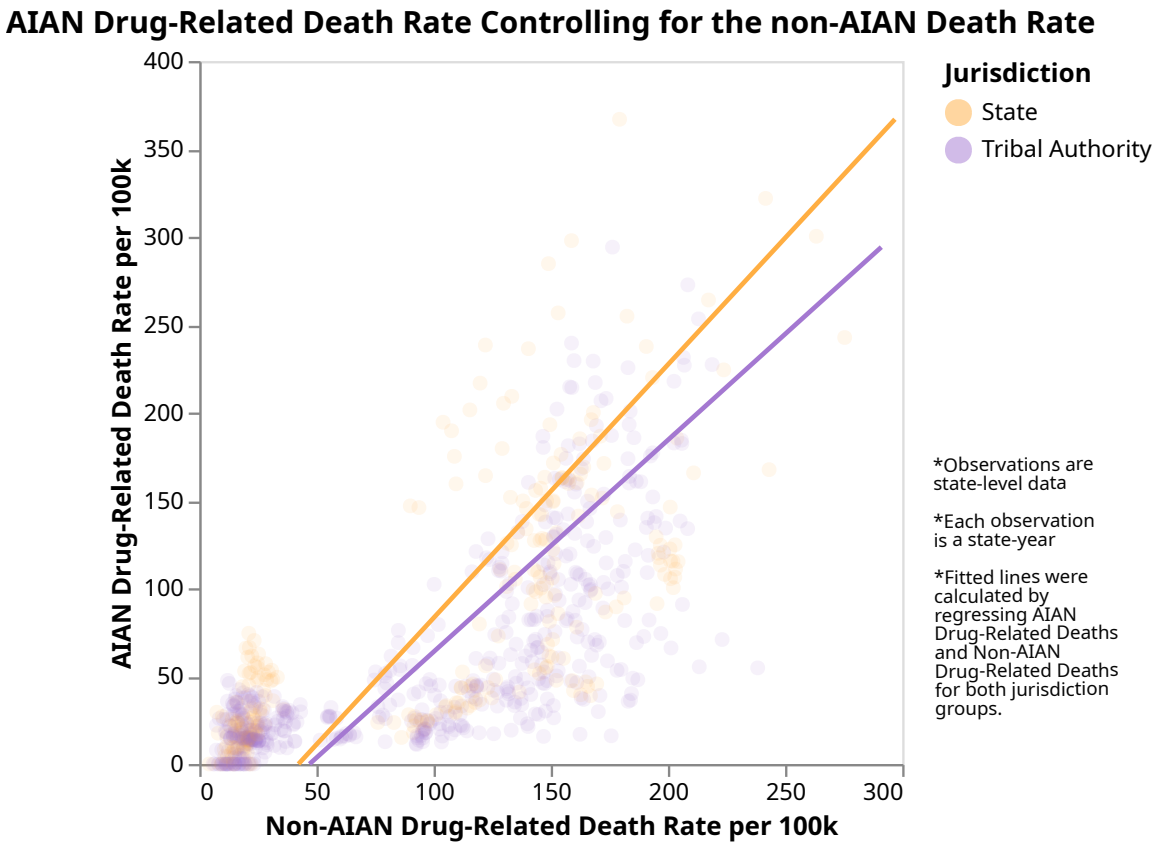


Figure 5:

Putting it all together we are estimating the following model:

$$\begin{aligned} \text{AIAN\_Death\_Rate}_{s,t} = \beta_0 + \beta_1 \text{Jurisdiction}[0,1]_{s,t} + \\ \beta_2 \text{Non\_AIAN\_Death\_Rate}_{s,t} + \sum_{y=1}^{T} \gamma_y \text{Year}_y + \sum_{i=1}^{S} \delta_i \text{State}_i + \varepsilon_{s,t} \end{aligned} \tag{1}$$

Where β_1 is our coefficient of interest for the interest in death rate between counties where Tribes lack criminal jurisdiction compared to counties where Tribes have criminal jurisdiction. To compare this model to what we displayed at the top we also estimate a model without controls:

$$\text{AIAN\_Death\_Rate}_{s,t} = \beta_0 + \beta_1 \text{Jurisdiction}[0,1]_{s,t} + \varepsilon_{s,t} \tag{2}$$

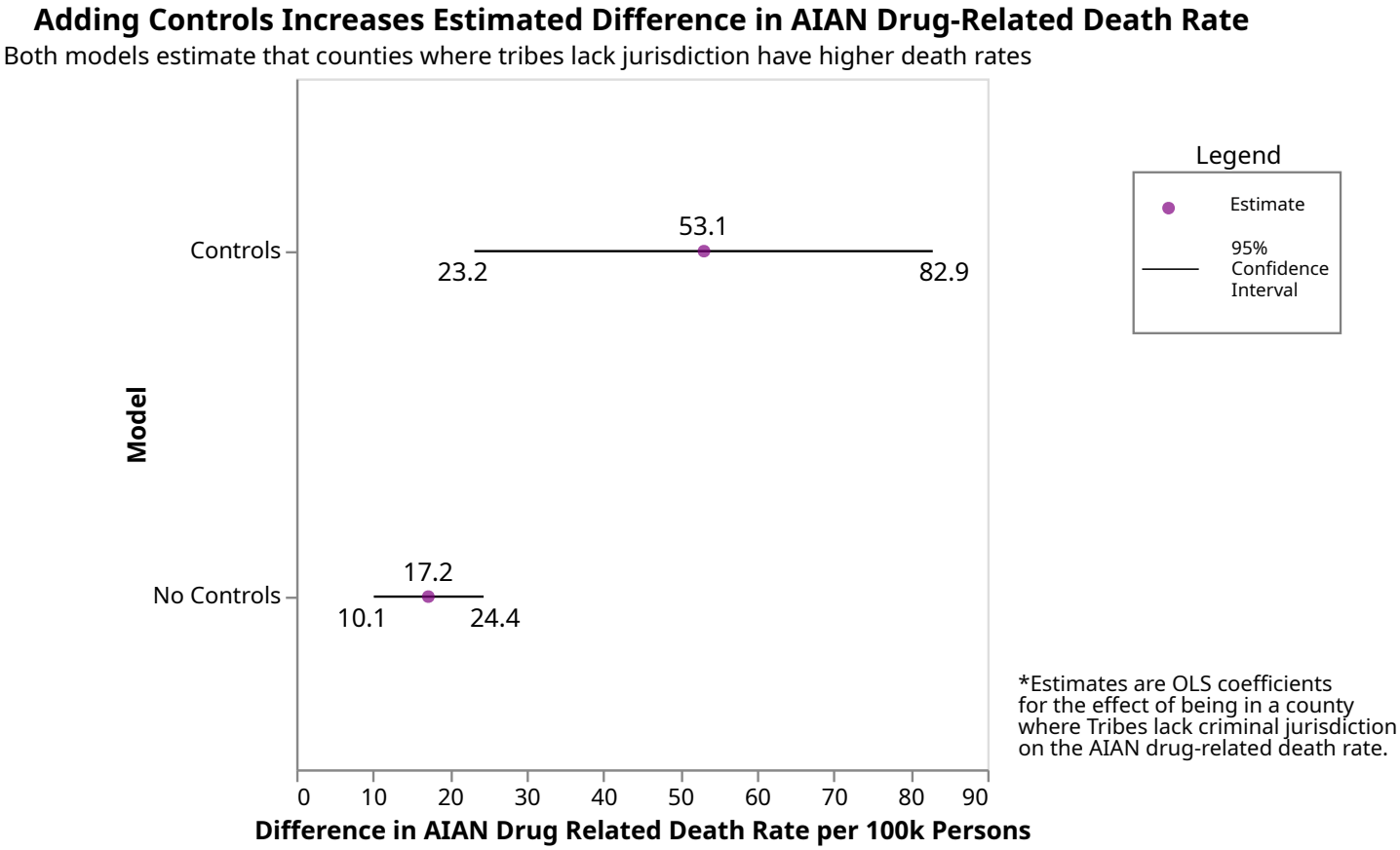


Figure 6: Estimates for β_1 for Model (1), with controls, and Model (2) without controls

Figure 6 above plots the two coefficients for our coefficient of interest, β_1 which is the difference in Drug-Related Death Rate for counties where tribes lack criminal jurisdiction. In both models, the estimate is significantly different than zero and positive. However, by controlling for additional variation we get a higher feasible estimate of the possible impact of restricting criminal jurisdiction on the drug-related death rate. In the model with control, the estimate of the difference in death rate more than doubled from 17.2 deaths per 100,000 persons to 53.1 deaths per 100,000 persons. However, the confidence interval on what the True estimate is also expanded dramatically. The lower end of the interval is still higher than our original estimate, at 23.2 deaths per 100,000 persons but the upper end is more than three times our initial estimate at 82.9 deaths per 100,000 persons. Any way you slice it, it looks like restricting the ability of Tribes to enforce their own laws, is associated with increases in drug-related deaths.