

Economic Consequences of the Proliferation of Medical Marijuana in Rural Oklahoma

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Outline

- Medical marijuana legalization in Oklahoma
- Research questions and exploratory aims
- Multi-pronged descriptive analysis:
 - Economic vitality & entrepreneurship
 - Natural resource consumption
- Future analysis

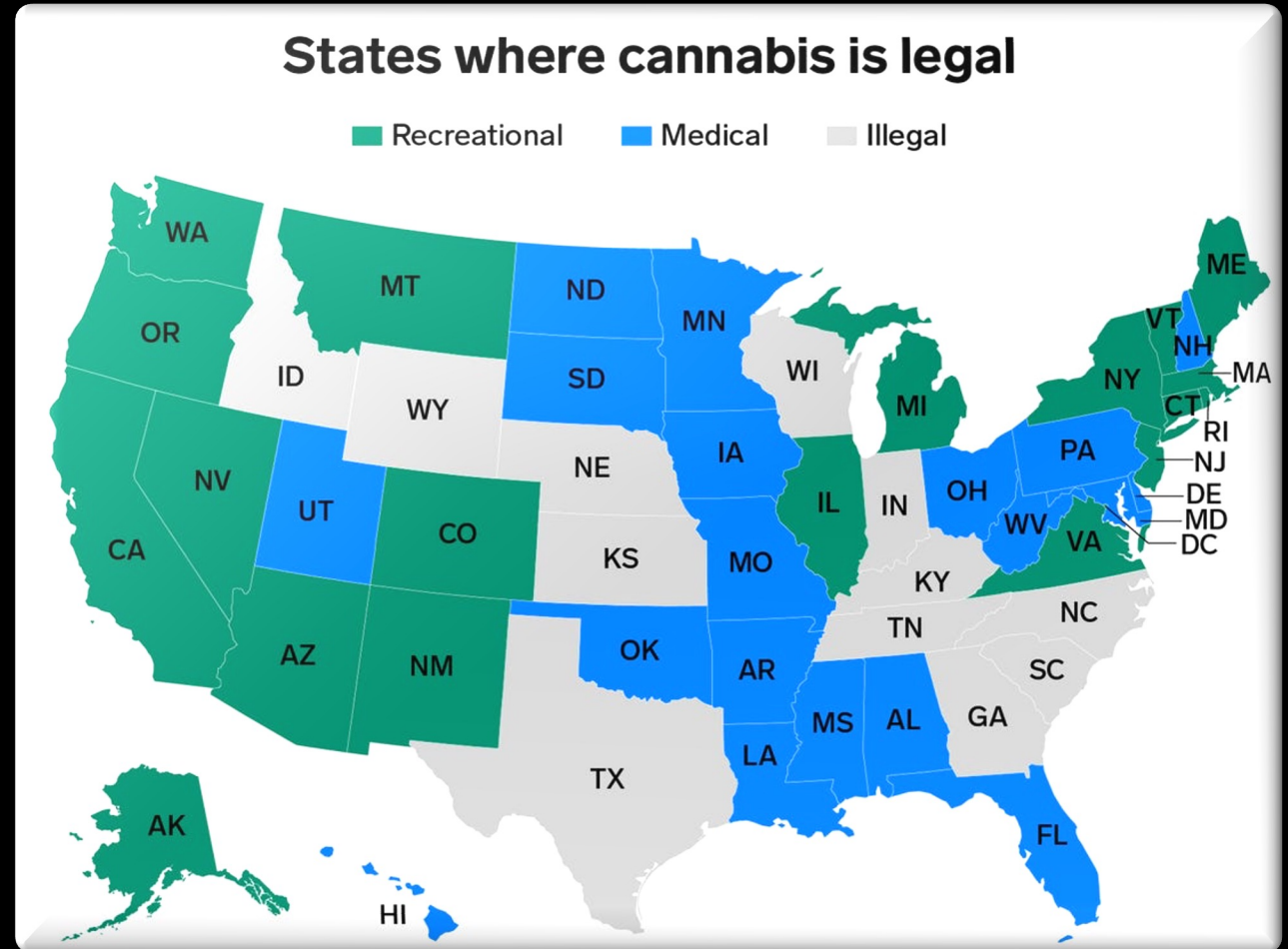
Medical Marijuana Legalization in Oklahoma

- SQ 788 was passed in 2018, creating the OK Medical Marijuana Authority
- OMMA is responsible for:
 - processing commercial and patient license applications
 - providing customer service to licensees and applicants
 - facilitating the rulemaking process based on state statutes
 - enforcing the rules
 - investigating possible violations of medical marijuana laws
- Recreational cannabis legalization will be on the ballot next year.



“Low barriers for entry and a fairly hands-off approach...”

- Costs ~ \$2,500 to get started, compared to \$100,000+ in Arkansas
- No cap on number of dispensaries or growers in a given county
- No cap on production quantities for each grow operation



The New York Times

How Oklahoma Became a Marijuana Boom State

Weed entrepreneurs have poured into Oklahoma from across the United States, propelled by low start-up costs and relaxed rules.



“Ever since the state legalized medical marijuana three years ago, Oklahoma has become one of the easiest places in the United States to launch a weed business. The state now boasts **more retail cannabis stores than Colorado, Oregon and Washington combined**. In October, it eclipsed California as the state with the largest number of licensed cannabis farms, which now number more than 9,000, despite a population only a tenth of California’s.”

Mix of Positive and Negative Reception

The screenshot shows a news article from KOCO 5 abc. The main headline is "Medical marijuana industry creates booming impact on rural Oklahoma". The sub-headline reads: "Oklahoma has come to be known as the 'Wild West of Weed' thanks to the booming medical marijuana industry." The article is dated May 23, 2022, at 5:23 PM CDT. The anchor is Shelby Cashman. A video player is visible with a play button icon. On the left side, there is a "RECOMMENDED" section with several article thumbnails: "Early Black Friday 2022 treadmill deals: Up to 40% or \$1,000 off Nordictrack, Cybex, and more", "Oklahoma student made threats to high school in Massachusetts, police say", "Multi-vehicle crash causes traffic backup on northbound I-35 in Payne County", "Money heading to Oklahoma to teach about environment", and "Truth Tests: KOCO 5 digging into Oklahoma campaign ads as election nears".

"This legalized in the next thing you know, you wake up and they're popping up like popcorn," said Sheldon Tatum, Hughes County **Rural Water** Manager.

Tatum is the rural water manager in Hughes County with a population of just over 13,000.

Tatum said there are about eight large grow operations in his territory that can each average **up to a quarter of a million gallons of water usage a month**. While many use wells on their property, he worries his 560 residential customers could end up **shouldering the cost of the overall increased demand**.

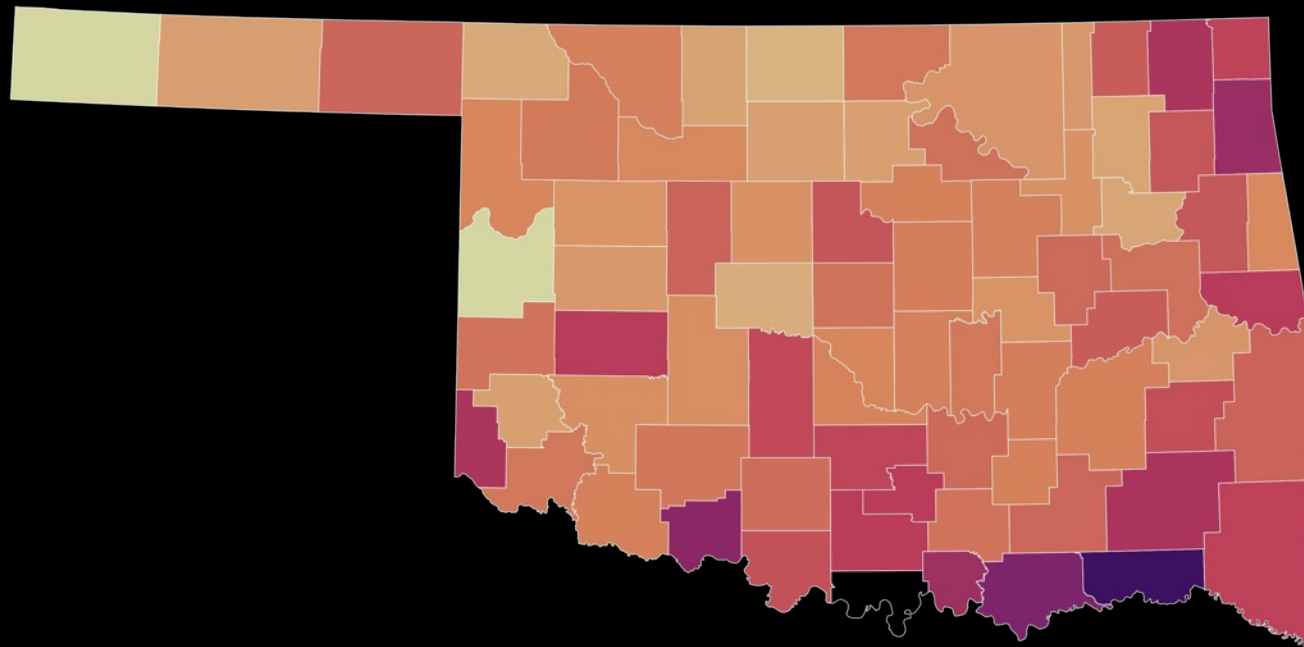
"In general, **these growers are very good for the grid**," said Logan Pleasant, director of engineering at Lake Region **Electric Cooperative**.

Pleasant is the director of engineering and operations at the Lake Region Electric Cooperative serving parts of seven Oklahoma counties. He said grows are beneficial because they don't fluctuate as often, as say an electric car charger.

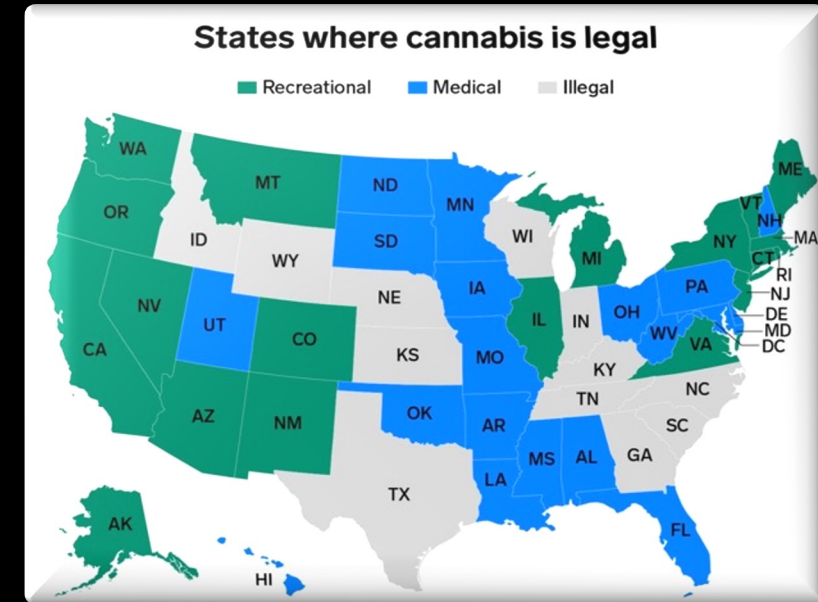
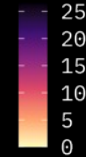
They are **consistent and reliable**.

"And then when they do come on, they tend to come on and stay on and that type of load is the holy grail of load for the grid," Pleasant said.

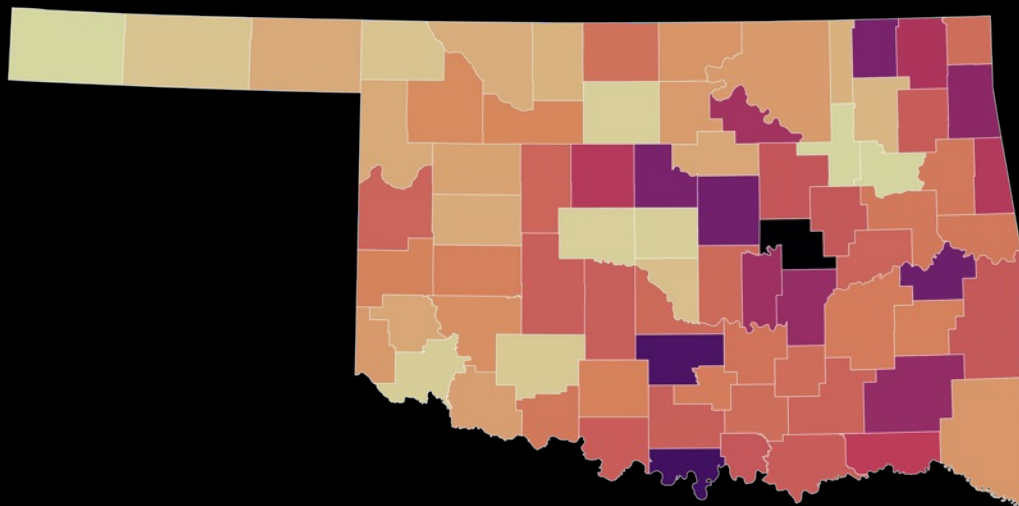
Location of Licensed Dispensaries



Dispensaries
Per 10,000

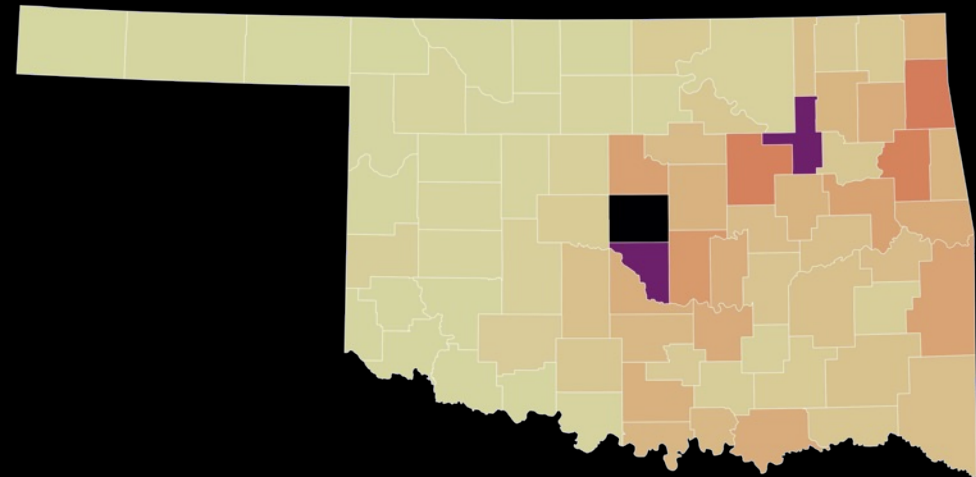


Location of Licensed Growers



Growers
Per 10,000

100
75
50
25



Growers
Per 1,000 Acres

8
6
4
2

Research Questions and Exploratory Aims

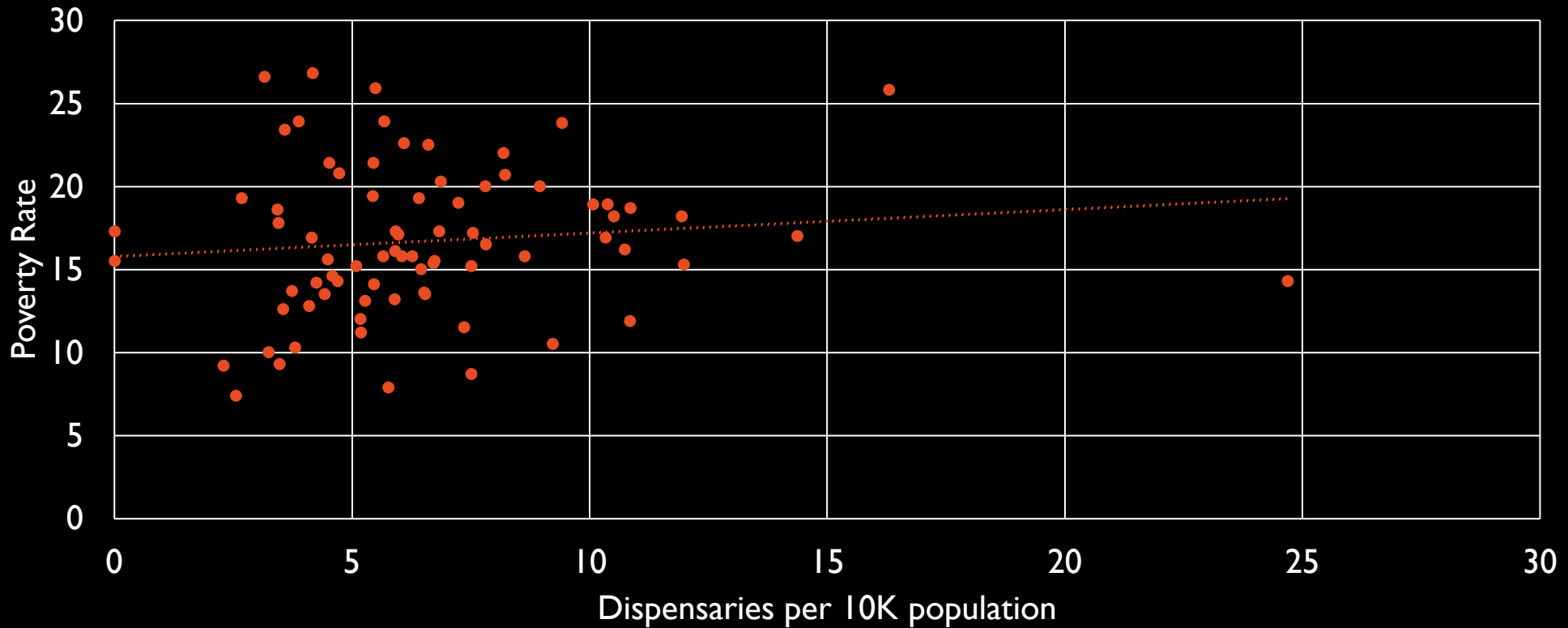
Overall objective: examine the impact of sparsely-regulated medical marijuana (MM) industry on rural economies and natural resources.

Specific Questions

1. Is MM dispensary prevalence correlated with local quality-of-life indicators such as crime, poverty, and disability?
2. On net, has the proliferation of MM dispensaries led to positive gains in local sales tax revenues and job creation?
3. Has the proliferation of MM grow facilities created disruptions for rural utility providers (e.g., water and power grids)?

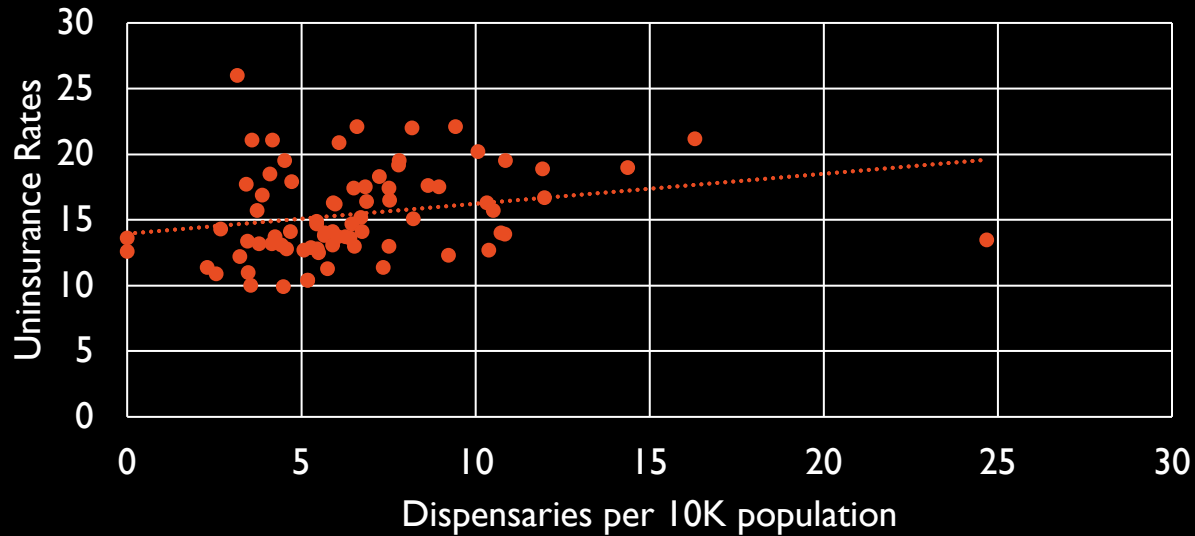
Dispensaries and Quality of Life

OK County Dispensaries Per Capita and Poverty Rates

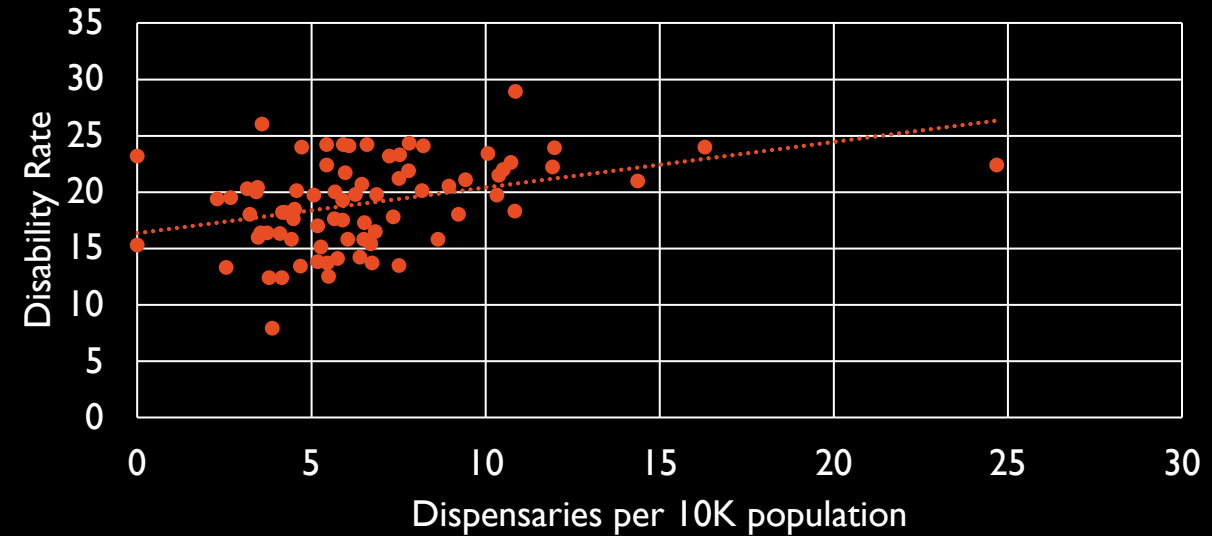


Dispensaries and Quality of Life

OK County Dispensaries Per Capita and Uninsured Rates

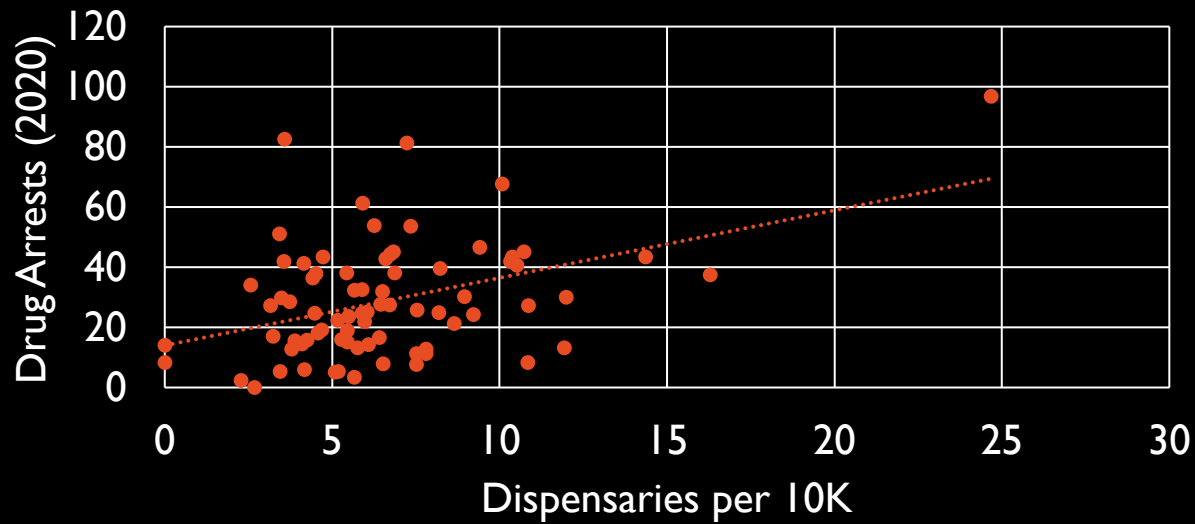


OK County Dispensaries Per Capita and Disability Rates

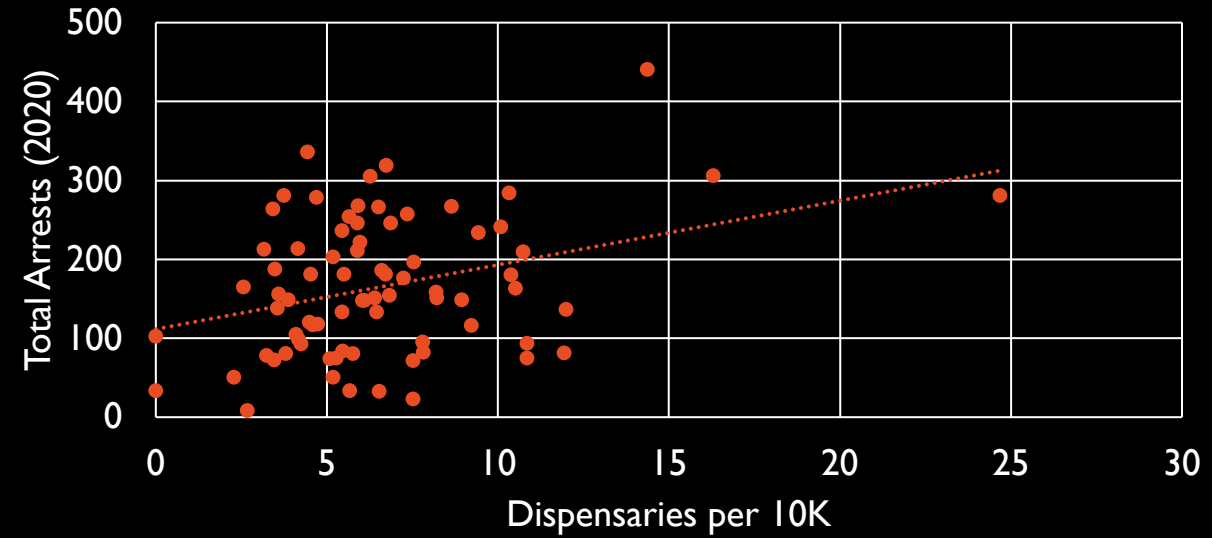


Dispensaries and Quality of Life

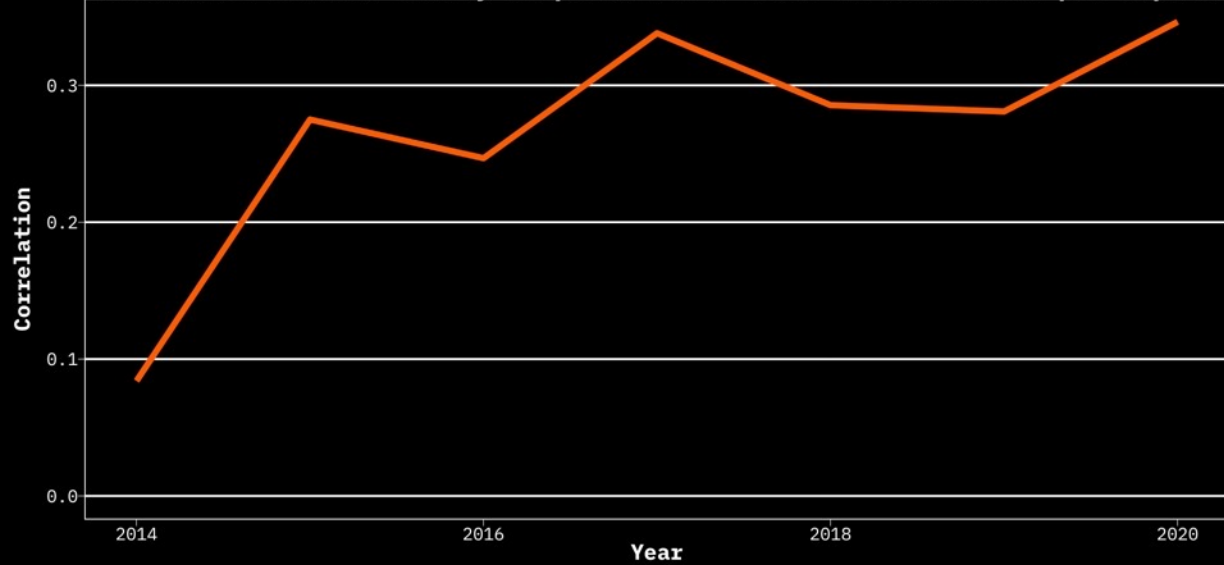
OK County Dispensaries Per Capita and Drug Arrest Rates (2020)



OK County Dispensaries Per Capita and Total Arrest Rates (2020)



Correlation Between County Dispensaries & Total Arrests (both per-capita)

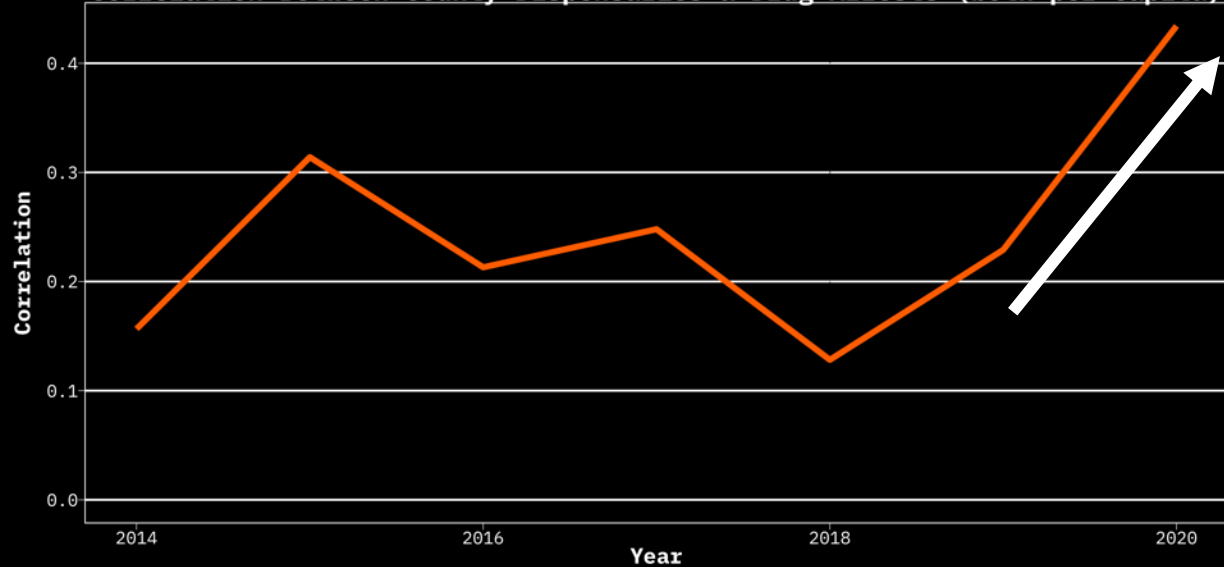


Temporal Trends:

Plots illustrate the correlation between the **2022 dispensaries per capita** and annual arrest rates between 2014 and 2020

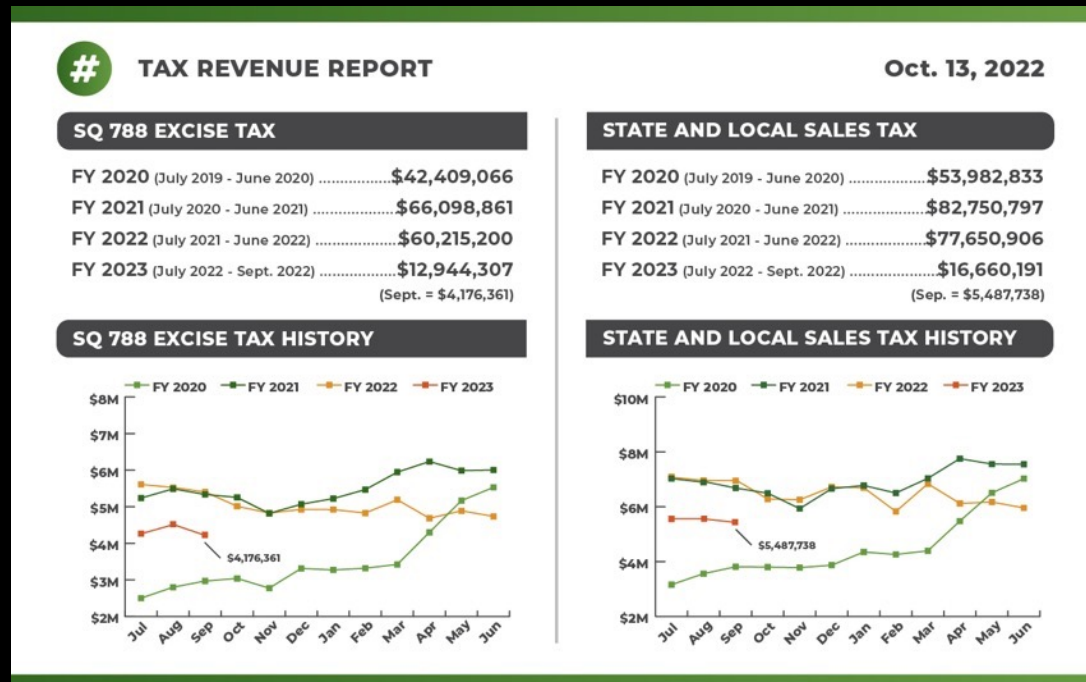
Crime seems to have gone up, but it's too early to tell.

Correlation Between County Dispensaries & Drug Arrests (both per-capita)



Dispensaries and Economic Vitality

- Goal is to estimate the causal relationship between medical marijuana legalization and various local economic development measures (sales taxes, jobs, property values...)
- Current OMMA licensing data doesn't have a year of entry



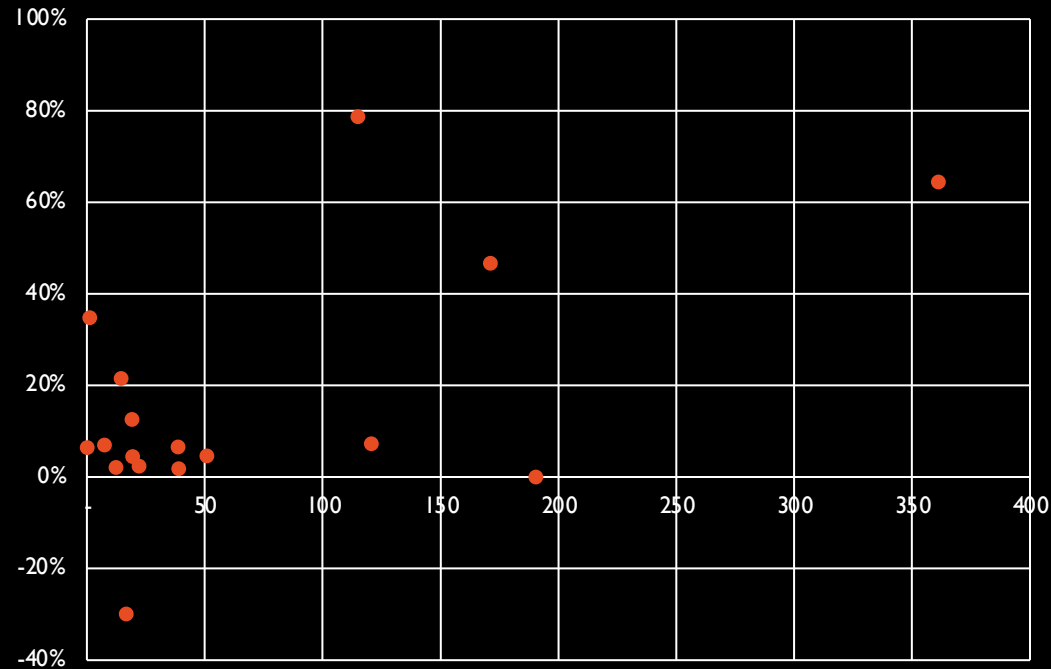
Growers and Rural Utility Consumption



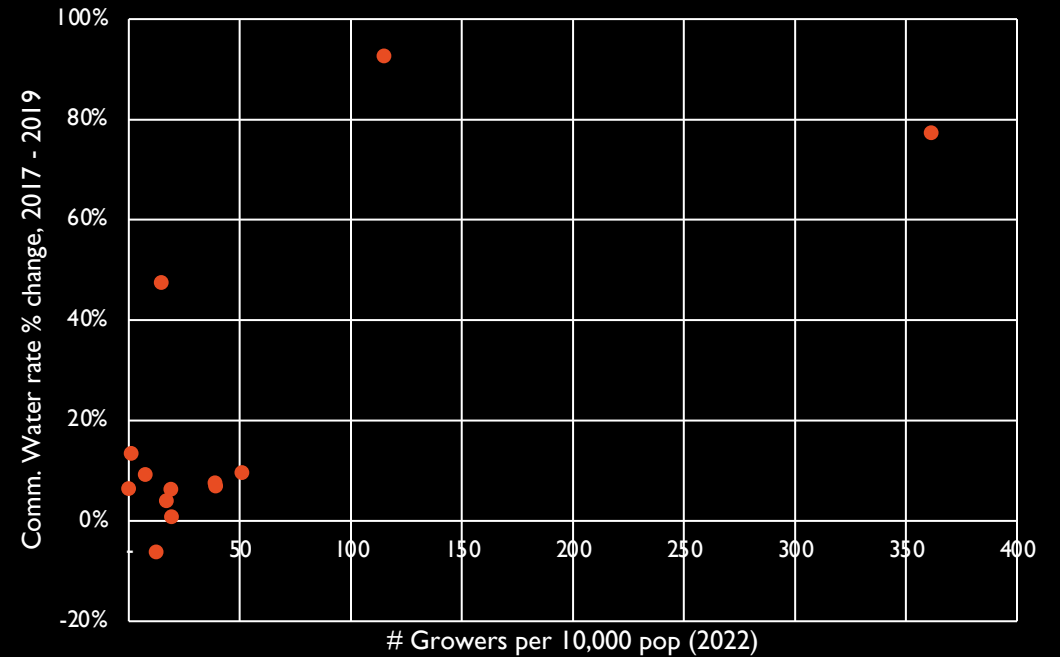
- Proliferation of medical marijuana grow operations has had a mixed impact on rural water and electric providers.
- **Water**
 - Good → ???
 - Bad → deplete resource, raise prices
- **Electricity**
 - Good → consistent, predictable load
 - Bad → infrastructure investment risk

Growers and Rural Utility Prices

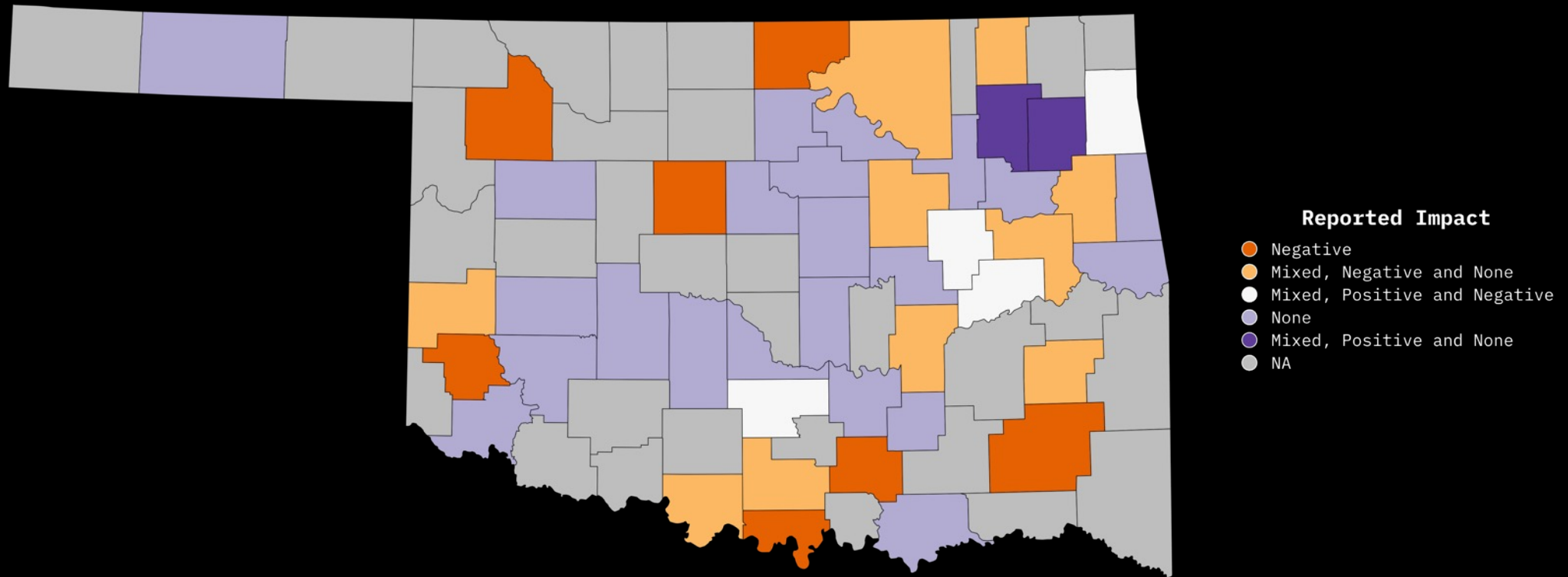
Residential Rate Change vs. Growers per 10,000



Commerical Rate Change vs. Growers per 10,000



What Impact Have Marijuana Growers Had on Your Water System?



Source: Oklahoma Rural Water Association

Future Research

- Estimate causal relationship between new dispensaries and local job growth (does a new dispensary inject *new jobs* into the economy?)
- For utilities & natural resources component, explore granular relationship between use and prices of rural utilities
- Explore the rural-urban divide between water use (indoor grow facilities) and infrastructure stress
- Explore crime/arrests that occur near dispensaries (are there urban/rural differences?)

Thank you!

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