

# The Association Between Marijuana Legalization and EVALI cases

## Objective

To determine if there is an association between legality status of marijuana products and EVALI case rates within the U.S.

## Hypothesis

Marijuana legalization provides a protective factor against Vitamin E Acetate induced EVALI incidence

## Background

- EVALI cases are most prevalent in young adults aged 18-24
- THC is a highly consumed product through vaping products
- Each state has a different legality status concerning Marijuana and THC products

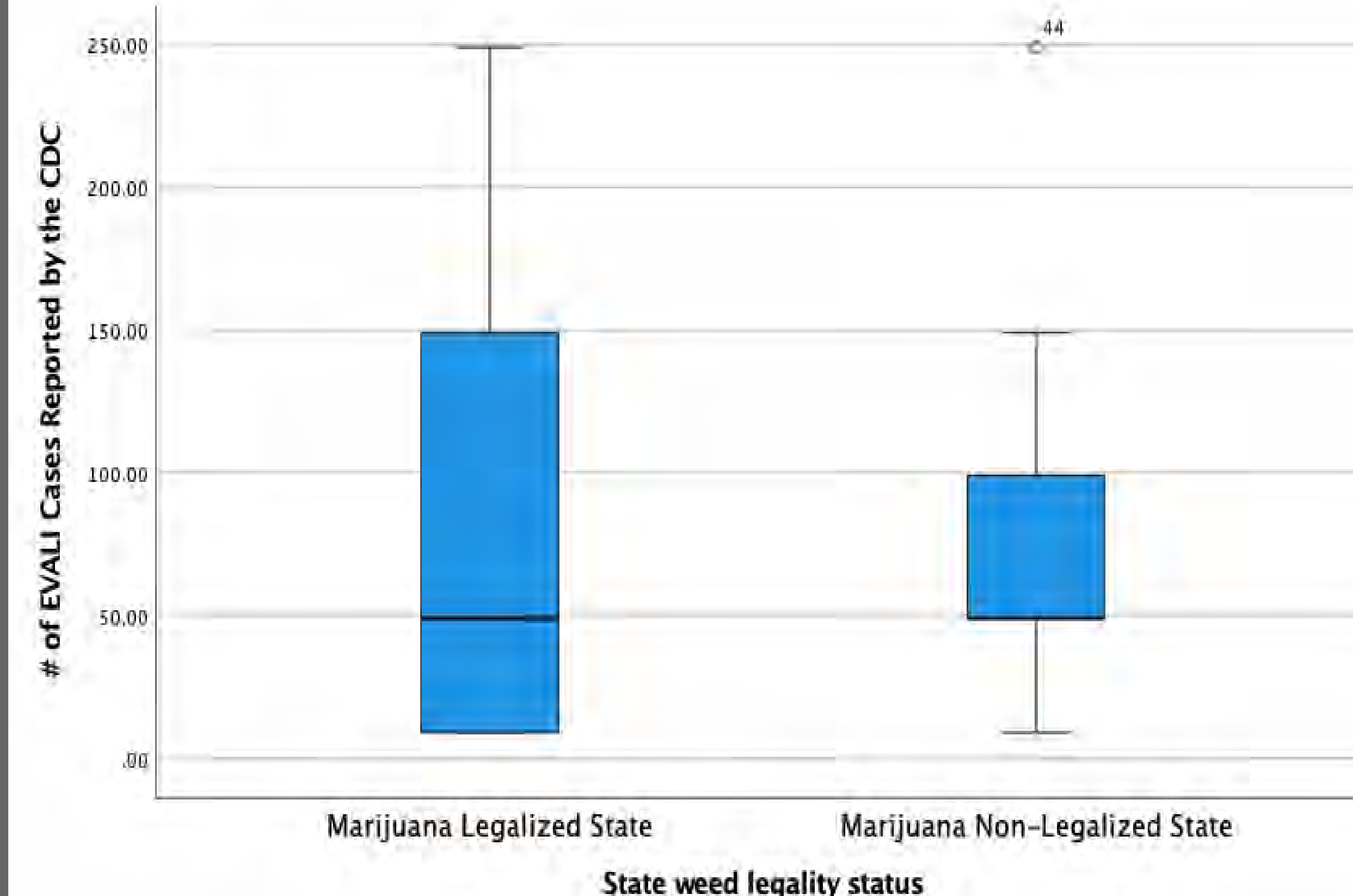
## Methods

Cross sectional analysis for a database of all EVALI cases in the United States collected by the CDC for all demographics using two samples characterized by marijuana legalization states A boxplot analysis and Welch's T-test for significance was made to determine whether a significant difference existed between the two samples.

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## Results

Welch t-test resulted in a 0.046 p-value  $< 0.05$ , which indicates that there is a significant difference between the two groups, non-legalized and legalized



## Citations

- Centers for Disease Control and Prevention. 2021. [online] Available at: [https://www.cdc.gov/tobacco/basic\\_information/e-cigarettes/severe-lung-disease.html#key-facts-vit-e](https://www.cdc.gov/tobacco/basic_information/e-cigarettes/severe-lung-disease.html#key-facts-vit-e) [Accessed 12 February 2021].
- DISA Global Solutions. Map of marijuana legality by state. Disa.com. Published July 17, 2019. Accessed May 7, 2021. <https://disa.com/map-of-marijuana-legality-by-state>
- IBM Corp. Released 2020. IBM SPSS Statistics for Windows, Version 27.0. Armonk, NY: IBM Corp

## Implications

Legalization of marijuana may be beneficial against EVALI due to accompanying regulation. However, this is outweighed by increased exposure to potential harm if made more widely available. It is recommended to regulate currently consumed products better for harm prevention.

## Conclusion

The legalization of marijuana is associated with a decrease in EVALI cases varying by state; this is due to the regulation that comes along with legalization.

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