

NVOLVE SPRING 2022 PROJECT - DATA VISUALIZATION

The Correlation of Mental Health Illness and the COVID-19 pandemic in 5 US States with
the Lowest Mental Health Issues

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Introduction

In March 2020, the World Health Organization declared COVID-19, the disease caused by SARS-CoV-2, a pandemic ('WHO Director-General's', 2022). Our goal is to communicate whether the prevalence of mental health issues in five states in the United States with the lowest mental health is correlated with the COVID-19 pandemic. We looked at Connecticut, Massachusetts, Minnesota, South Dakota, and Vermont. We chose these states because we wanted to analyze if states with the lowest mental health issues had significant changes during the pandemic. To do this, we analyzed data from 2018–2021 for each of the 5 states. The questions we looked at are: what was the prevalence of mental illness in US states before and after the pandemic? What was the prevalence of mental illness in US state populations (adults and youth) before and during the pandemic? How accessible was mental health care in US states before and during the pandemic? We hypothesize that the COVID-19 pandemic is correlated with increased mental health illness and access to resources in U.S. states with the lowest mental health issues.

Methods

The methods utilized to analyze the data were comparing four data articles from each year (2018–2021) for the five states. This allowed us to showcase data before the COVID-19 pandemic: 2018–2020, and during the pandemic: 2020–2021. To answer our questions, data was focused on the overall ranking amongst the US states with the lowest mental health, the prevalence of mental illness in adults and youth, access to mental health care, and the prevalence of mental illness in general. Tableau, a data visualization software, was used to create graphs based on the data found for each topic. Data analysis was then done to describe the correlation found between mental illness and the COVID-19 pandemic.

Results and Discussion

Overall ranking amongst the US states with the lowest mental health were compared to analyze how mental health changed during the COVID-19 pandemic. Overall ranking was made up of 15 measures which includes both adult and youth measures as well as prevalence and access to care measures. An increase in mental health illness prevalence also had a decrease in access to health care. In Connecticut, Massachusetts, South Dakota, and Vermont, there was an increase in the prevalence of mental illness prior to the pandemic. Prior to the pandemic, however, there was a drop in the prevalence of mental illness in Minnesota, followed by a rise. During the pandemic, the prevalence of mental health illness increased in Connecticut and Minnesota, whereas the prevalence of mental disease decreased in Massachusetts, South Dakota, and Vermont. Overall, the data suggests that during the pandemic, two out of five states had a higher frequency of mental illness and less access to health care.

The prevalence of mental illness in adults from 2018–2021 was analyzed to see if there was a correlation between the pandemic and mental illness. Prior to the pandemic, there was an increase, then a fall in the prevalence of adult mental illness in South Dakota and Vermont, while there was a decrease, then an increase in Connecticut. Prior to the pandemic, the prevalence of adult mental health problems increased in Massachusetts, whereas it decreased in Minnesota. Adult mental health illness increased in Connecticut, Massachusetts, Minnesota, and Vermont during the pandemic, whereas it decreased in South Dakota. Overall, the data indicates four out of the five states had a higher adult prevalence of mental illness during the pandemic.

Youth prevalence of mental illness among the five states was also analyzed. Before the pandemic, the prevalence of juvenile mental health illnesses increased in Connecticut, Minnesota, South Dakota, and Vermont, but the prevalence of youth mental health illnesses decreased in Massachusetts, then increased. During the pandemic, the prevalence of youth mental illness increased in Connecticut, Massachusetts, Minnesota, and Vermont, while it

decreased in South Dakota. Overall, the data shows that four out of five states had a higher youth prevalence of mental illness during the pandemic.

Access to mental health care for all five states from 2018-2021 was analyzed to determine how it changed due to the COVID-19 pandemic. Prior to the pandemic, access to mental health treatment in Connecticut and South Dakota fell, while access to mental health care in Massachusetts increased, then decreased. For a while, Minnesotans had constant access to mental health care, and then it began to improve. There was a reduction in mental health treatment access in Vermont, followed by an increase. In both Minnesota and South Dakota, access to mental health care increased during the pandemic. The rating of Massachusetts remained unchanged, and the inhabitants of Vermont received consistent care. Access to mental health services in Connecticut decreased. Overall, the data indicates that two out of five states had an increase in access to care, two out of five states had consistent access to care, and one out of five states had a decrease in access to care during the pandemic.

The prevalence of mental illness among the five states from 2018–2021 was analyzed to determine a correlation with the COVID-19 pandemic. Prior to the pandemic, the prevalence of mental illness increased in Connecticut, Massachusetts, Minnesota, and South Dakota, while it decreased in Vermont. During the pandemic, mental health illness was less prevalent in Connecticut, Massachusetts, Minnesota, and South Dakota, while it was more prevalent in Vermont. Overall, four out of five states showed a decrease and one out of five states showed an increase in the prevalence of mental illness during the pandemic.

Conclusion

This study allows us to see if the COVID-19 pandemic is linked to the prevalence of mental illness in five of the United States' poorest states. The study's limitations included the fact that it only analyzed five states with the lowest rates of mental illness in the US. During the pandemic, we discovered that two out of every five states had a greater overall prevalence of mental illness and had less access to health treatment. During the pandemic, adult mental illness was more prevalent in four out of five states. During the pandemic, mental illness was more common in four out of five states. Two of every five states had a rise in access to care, while two of every five states saw a decrease in access to care. Therefore, our hypothesis on the pandemic being correlated with increased prevalence of mental health illness does not seem supported by the data. Although, our hypothesis on the pandemic being correlated with higher access to care during the pandemic was supported.

Tableau Project - URL Link:

<https://public.tableau.com/app/profile/armita2703/viz/TheCorrelationofMentalHealthIllnessandtheCOVID-19Pandemicin5USStateswiththeLowestMentalHealthIssues/Dashboard13>

References

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WHO Director-General's opening remarks at the media briefing on COVID-19 - 11 March 2020. (2022). Retrieved 1 April 2022, from <https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020>