The goal of this subproblem was to analyze the correlation between pharmacy access (measured in pharmacies per square mile) in all states with available data vs. just Alaska and Hawaii to see if they have any abnormalities compared to the rest of the country. Additionally, I looked at the correlations between population density and pharmacy density (per 100k people and per square mile).

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As expected, there is a very strong correlation between population/sq.mi. and pharmacies/sq.mi. This means people in rural areas will, on average, have longer distances to travel to their nearest pharmacy. The trend holds true for Alaska and Hawaii.

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These results for the correlations between population/sq.mi. and pharmacies/100k population seems reasonable. The denser areas tend to have fewer pharmacies per 100k people. This is likely because each pharmacy can service more people in dense areas. This correlation holds well for Alaska and Hawaii.

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For all states as a whole, and for Alaska and Hawaii both as well, obesity is negatively correlated with pharmacies per square mile. It is possible that the lack of pharmacy access contributes to the higher obesity rates in less dense areas.

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The one unexpected result was Hawaii having a positive correlation between pharmacies per sq.mi. and Diabetes rates. However, Hawaii only has 4 counties, and the correlation is highly skewed by one data point. It is possible, as with Obesity, that lack of pharmacy access contributes to diabetes.