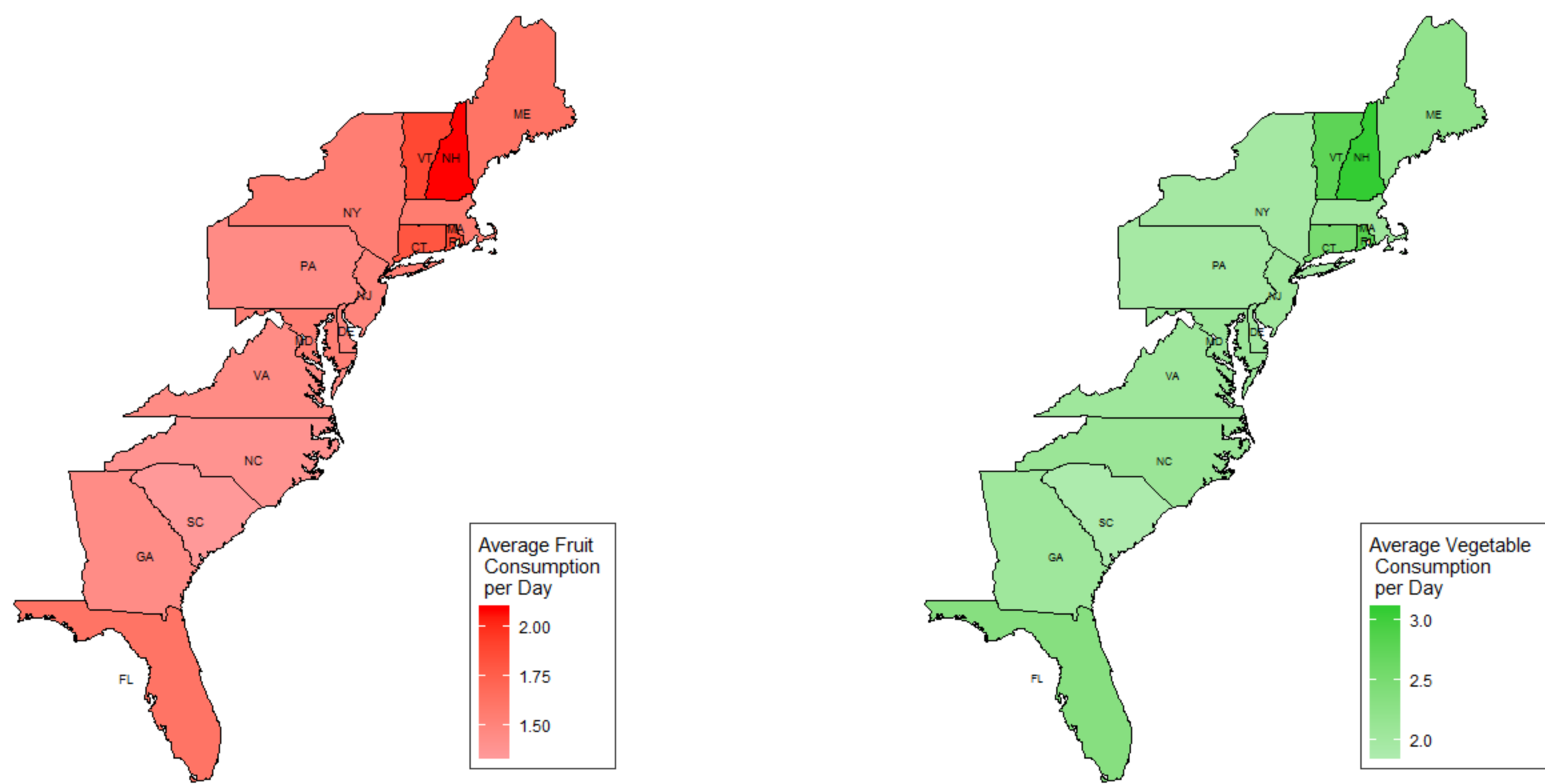


Which state has the highest *Fruit and Vegetable* consumption per day?

Author: Bunyod Tusmatov 10/2//2018

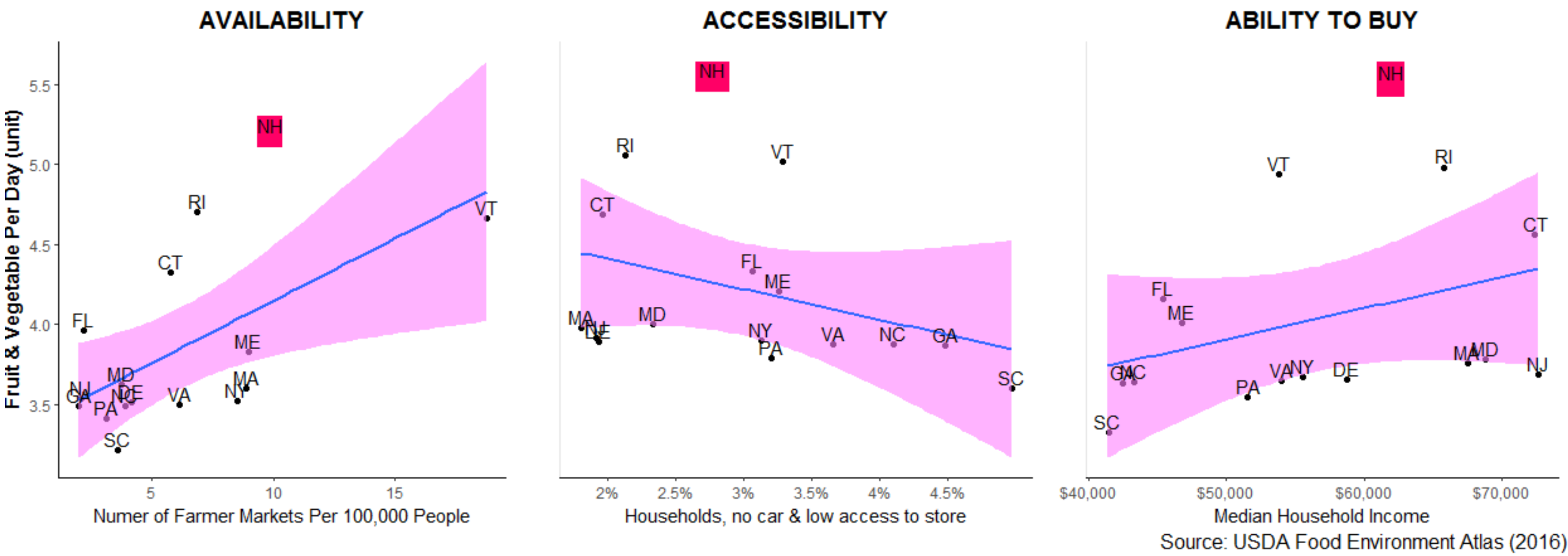
Fruits and vegetables are important part of our nutrition as they are rich with vitamins, high fiber and water content. It is hard to imagine our day without having a fruit and/or vegetable. Have you ever wondered what does average consumption of fruit and vegetable per day look like among different states? The goal of this project is to visualize average daily fruit and vegetable consumption at East Cost (EC) states, and analyze how availability of fruits & vegetables, having access to stores and ability to purchase affects daily fruit and vegetable consumption.

Map of Average Fruit and Vegetable Consumption Per Day



Source: Center for Disease Control - BRFSS, 2017

While exploring BRFSS 2017 data, I found that (shown above) Vermont (VT), Rhode Island (RI), Connecticut (CT) and New Hampshire have higher fruit and vegetable consumption per day compared to other states. Moreover, NH has the highest fruit and vegetable consumption per day compared to its neighboring states and the nation overall. After brainstorming some possible reasons for why NH has the highest daily fruit & consumption, I decided to explore how availability of fruits & vegetables, having access to stores and ability to purchase affects daily fruit and vegetable consumption. I used the most recent USDA Food Environment Atlas data (2016) and found the following insights:



Source: USDA Food Environment Atlas (2016)

Farmer markets play an important role in providing access to affordable fruits and vegetables, while keeping farming profitable. The scatter plot above shows there is a statistically significant association between fruit & vegetable consumption and number of farmer markets per 100,000 people. It can be inferred that fruit and vegetable consumption rises as the number of local farmer markets per 100,000 people increases. The New Hampshire has the second highest number of farmer markets per 100,000 people and this is one of the reasons for having the highest fruit & vegetable consumption in the state.

Being able to travel to stores and purchase food is another important factor that determines fruit & vegetable consumption. The scatter plot above shows the association between the percentage of households in a state that don't have a car and live more than 1 mile away from grocery stores (or 10 mile if in a rural area), and their fruit & vegetable consumption. Only 2.7 % of New Hampshire residents live under this condition. This could be another reason for why NH has the highest fruit & vegetable consumption. However, the fitted linear model and log transformed models did not show a significant correlation.

One's ability to purchase fruits and vegetables is another important factor that determines fruit & vegetable consumption. Since East Cost states are relatively similar to each other, it is reasonable to assume that \$100 have a similar purchasing power in all states. The scatter plot above shows the association between median household income and fruit & vegetable consumption. The New Hampshire has higher median income compared to majority of EC states. However, the fitted simple linear model didn't show a significant correlation between two variables.

References:

- Center for Disease Control - Behavioral Risk Factor Surveillance System (2017). Retrieved from https://www.cdc.gov/brfss/annual_data/annual_2017.html
- USDA Food Environment Atlas (2016). Retrieved from <https://www.ers.usda.gov/data-products/food-environment-atlas/data-access-and-documentation-downloads/#Current%20Version>